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HUNTER ON DISEASES
OF THE
THROAT AND LUNGS.

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A

PRACTICAL TREATISE

ON THE

DISEASES

OF THE

THROAT AND LUNGS;

WITH THEIR TREATMENT BY INHALATION.

BY ROBERT HUNTER, M.D.,
PHYSICIAN FOR DISEASES OF THE CHEST—AUTHOR OF "OBSERVATIONS
ON INHALATION," ETC., ETC.

"In explaining these things, I deem myself as composing a solemn hymn to the Author of our bodily frame; and in this I think that there is more true piety, than in sacrificing to him hecatombs of oxen, or burnt offerings of the most costly perfumes."—*Oalen*.

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PRELIMINARY REMARKS.

It never was designed, in the structure of man, that in premature decay his existence should be consumed ; that he should pass away from the stage of life, at that moment when everything around him points his hopes and aspirations to the activity of being. Such, however, is too often his destiny ; but the result is chiefly owing to the many arts to which he is reduced in society, for the sustenance of that life so munificently bestowed upon him. To meet, and if possible to avert, the evil by all the means within his art, is the business of the physician. Nothing fills the heart of the generous physician with greater sorrow, and more anxious solicitude, than to see the young, the beautiful, the good, sinking, still unhindered by his remedies, and unaided by his art. When these turn to him their appealing eyes, as to “a Priest of the holy flame of Life,” it is then the man of sympathy feels the heavy responsibility

of his profession. If, under such circumstances, he finds himself compelled to pronounce the disease *incurable*, how unsatisfactory are his remedial efforts. He may endeavor to smoothe the pillow; but cannot hope to save this patient from an inevitable doom.

The treatment of Pulmonary Consumption, until within a very recent period, has been involved in the greatest uncertainty and darkness. By universal consent among the uninitiated, and with few and solitary exceptions among the profession, the disease has ever been regarded as *incurable*. No art of medicine, it was thought, could drive out or destroy this enemy of human life, when once it had gained possession of the lungs. Thenceforward, it was left to revel at pleasure among the delicate air cells; to ravage as it would the fine membraneous surface of this exquisite organ of breath; to choke with tubercles, or corrode with ulcers, this inlet and gatherer of life;—the remedies applied, of a character by no means suited to the nature of the disease; the mode of administering them, still less so.

No sooner is it discovered that the lungs of a patient are diseased, than a vigorous attack is made upon the stomach; and pills, and powders, and syrups, are brought to bear upon that arsenal of nourishment. Its regular functions are disturbed; its digestive powers are weakened; its assimilation of nutrition is rendered imperfect.

Dyspepsia follows, with its train of miseries. The organs depending upon it for their daily employment, are thrown into confusion. The *heart* no longer propels its stream of generous blood in an equal current; its impurities promote irregular and fitful pulsations. The *liver*, cut off from its healthy occupation, sinks into languid inaction. The *kidneys*, unused to foreign secretions, are yet compelled to labor beyond their design, in removing the oppressions of the system. Every department in the economy of life is disturbed. The wheels of this complicated machinery are thrown out of balance; and is it surprising if all sink together, shattered by the force of nature still remaining in the system, but undirected to its proper end!

On the other hand, let us change our mode of treatment. In other diseases, we apply our remedies to the diseased organ. Why should we not do so in consumption and diseases of the lungs? We know the influence exerted upon our health by the natural *air* we breathe. We feel, most sensitively, the slightest change in the condition of that air. Charge it with a noxious gas, and we become oppressed. Inspire it with a salutary balm, and we are elated. Soothe it with a narcotic odor, and we yield ourselves to its drowsy effects. Sweeten it with the fragrance of flowers, and pleasure runs tingling through our nerves. And so we change the effect

produced upon our senses, our systems, or our lives, as we vary in its elements the very air we breathe. In no medium around us have we a conductor of greater power; and yet so finely drawn,—so minute,—so natural,—that it enables us to act upon the system by the gentlest means; to apply our remedies with certainty; and to reach the disease without doubt. Shall we not, then, take advantage of this natural medium, so constantly presenting itself to our notice; or shall we yet continue an unnatural, disagreeable, and ineffectual treatment, by drugs sent on a blind mission, through the stomach to the lungs?

Medicines, properly administered through the stomach, are of inestimable importance in regulating and raising the tone of the system. Nor is their proper use by any means inconsistent with inhalation. They ought, if need be, to co-work together. By inhalation, I bring the remedy to bear directly upon the diseased lung,—as by remedies administered through the stomach we act directly upon other organs of the body.

This, then, is what is meant by inhalation, in the treatment of consumption. It is the application of the remedy, in the most direct manner, to the seat of the disease. But inhalation, in itself, is merely the mode or manner of administering the medicine. The medicine prescribed,—its nature,—strength, times, and other

contingencies, must depend upon the judgment of the physician, and he must form his judgment upon a knowledge of the case,—its stages, symptoms, and circumstances ; hence, it will at once be seen how impossible it is to reduce the prescription to a standard, applicable to cases differing in temperament,—habits, stage of disease, and constitutional idiosyncrasy.

There can be no specific,—no universal remedy, so long as man differs from man, in constitutional peculiarities ; and hence, again, the absurdity, nay worse, of making the label on a bottle—without reference to the circumstances of the case it may be applied to—a guarantee of health to its deceived recipient. The pursuit of health is a laudable study, and the business of life to those who have it not. But every false light,—every *ignis fatuus* of unwholesome mists, is too apt to carry its eager follower from place to place, from remedy to remedy, from hope to hope, until the light grows less and less, leaving him at last in darkness, uncertainty, and hopeless despair.

In the year 1851, I introduced the treatment of consumption by inhalation into the United States. In Washington, and some of the Southern cities, its success is well known, by parties of the highest respectability. I have thought it advisable, now, to bring the matter, as one of very great importance, more prominently before

the public. In doing so, while on the one hand I do not pretend to any Quixotic disinterestedness, I can, on the other hand, most heartily adopt the language of Sir Charles Sendamore, who, in calling the attention of the profession in England to this same treatment by inhalation, remarks, "For the sake of humanity then, I recommend the treatment, and will repeat what I have said. * * * It is not on selfish grounds that I advocate the practice,—what concerns my reputation is personal and transient, and of little moment; what relates to science, and the interests of mankind, is for all ages—and of inestimable importance."

I do not ask for *faith* in the many successful cases I have treated by inhalation, without presenting at the same time, the reasons upon which the treatment is grounded. I wish parties to be well informed as to their condition, before they are called upon to judge of the reasonableness of my advice. I wish their confidence, it is true, but not on grounds of credulity, so much as on those of rational conviction; and by giving them information regarding the nature and causes of Consumption, Bronchitis, and Asthma, and the means of applying the remedy, I hope to arm them against the dishonest practice of empirics, uneducated, and inexperienced in the many phases of pulmonary diseases, whose blundering experiments are too apt to bring unmerited

odium upon inhalation, rather than on him who abuses it.

It is gratifying to me, however, to know that the treatment I have introduced, has been regarded with favor by the profession in this country. From every part of the Union, I have received the most flattering letters from medical men, elicited by the success of inhalation, in cases which had previously been under their own immediate care. Not only am I able to include a large number of physicians among my patients, but by their advice, am daily receiving from their friends and relatives, the most tangible proofs of their confidence in its curative powers.

Of the *curability* of consumption, we have *now* the testimony of such high authority as LAENNEC, who demonstrates it; of Sir JAMES CLARKE, who asserts, "That Pulmonary Consumption admits of cure is no longer doubtful;" of Dr. CARSWELL, the distinguished Professor of Pathological Anatomy in the London University, who declares that, "Pathological Anatomy has never afforded more conclusive evidence of the curability of a disease, than it has in that of tubercular consumption." But, in the face of all this, we cannot lay our finger on a single case of decided cure of Pulmonary Consumption under the old treatment, while on the other hand, in my own experience, testified by nume-

rous letters on my files, there have been cures of consumption under the treatment by inhalation, in every stage of the disease, from incipient irritation, to ulceration and the existence of cavities in the lungs.

With these facts before me, I am urgent in bringing the matter under the consideration of the people of America,—a country where Consumption, Bronchitis, and Asthma prevail to a frightful and fatal extent. I do not claim for inhalation any miraculous results; but I do assert, that it is the most rational, natural, and *successful* treatment that has ever been applied to diseases of the lungs; and further, that if it, properly applied, fails—no other earthly art will succeed.

828 BROADWAY, NEW YORK,
May, 1854.

AFFECTIONS

OF

THE THROAT AND LUNGS.

BEFORE proceeding to speak of the diseases to which the Lungs and Air-Passages are liable, it will, perhaps, be advisable to give a brief description of the parts concerned in respiration.

The organs of respiration comprise not only the lungs, which lie within the chest, but also the windpipe, which conveys the air from the throat. The mouth and nasal passages terminate in one common cavity, called in popular phrase, the "*throat*," and in professional, the "*fauces*." The throat, or fauces, is that cavity which is seen on looking into the mouth, when the tongue is depressed, below and behind the curtain of the palate. From the centre of the palate, a little point is seen hanging down towards the root of the tongue. This is the "*uvula*." On either side of the entrance into the fauces, and immediately behind and below the outer margin of the curtain of the palate, are two glands—the *tonsils*.

Now, these several and distinct parts are all liable to disease, and it is well that the world should know to what *kind* of disease. First, then, we are exposed in some manner, it matters not what, to take cold. If this settles on the *mucous membrane* of the nose, causing the nostrils to be stuffed up, the eyes to overflow with tears, and a dull pain to be felt in the region of the forehead, the complaint is called "a cold in the head," or *catarrh*. If the mucous membrane of the fauces is

the seat, it is called a simple "*sore throat*." If the tonsils become the seat, then the complaint is called a "*quinsy*." Of catarrh it is my intention to speak, under the head of Bronchitis.

Of Sore Throat.—This term is a familiar one, and is used generally to designate several forms of disease having relation to the mucous membrane of the fauces, and also of the mucous follicles, which are scattered over its surface. In ordinary sore throat, occasioned by a cold, there is simply redness and slight puffiness of the membrane, which subside after a few days, and leave the parts affected, in their former condition. This occurs to most persons during winter, but it is thought of so little consequence, as scarcely to deserve attention. Not so, however, in reality, *for each attack leaves a greater liability to a recurrence*. It is imperative that all these cases should be promptly treated by the use of warm emollient inhalations from a proper instrument, the tubes of which are capable of directing a large volume of vapor into the throat without the slightest effort on the part of the patient.

Simple sore throat may not, possibly, terminate in this satisfactory manner. The inflammation becomes very much less, and all the unpleasant symptoms gradually disappear, leaving the patient, as he supposes, again in perfect health. But soon he becomes conscious of a harassing titillation, producing a desire, two or three times in the course of the day, to *clear the throat*. This, probably, is not perceptible to himself, but it is nevertheless noticed by his friends. After some few months, however, this disposition increases, with a desire to *swallow*, the patient feeling something (to use a familiar phrase) "*sticking in his throat*."

On looking into the throat, under these circumstances, granulations of various sizes will be seen studding the membrane, and causing it to appear rough and uneven. At times these exist in irregular patches, but commonly, they are regular in shape, and each granulation is distinct. As the disease progresses, the mucous follicles of the larynx become involved, and then we have a huskiness of the voice, with frequent and vexatious attempts to clear the throat. At these times a thick,

sticky kind of mucus is forced off with considerable difficulty. In the treatment of this disease, when it is confined to the throat and upper part of the larynx, very decided benefit is produced by astringent applications, as the *nitrate of silver*, or what I prefer, the *acetate of lead*, reduced to an impalpable powder, and applied by means of a camel's hair pencil directly to the granulations, repeated every day, or second day, according to circumstances. But the *most* important means consists in the use of soothing and expectorant inhalations of warm vapor, three or four times during the day. Their action is to soothe the inflamed membrane, and to render the expectoration easy, while at the same time they excite the diseased surface to a healthy tone and action. By this simple and direct treatment, this disease, so great an affliction to thousands, is cut short in a few weeks.

The usual recourse to bleeding, purging, alteratives, and counter-irritation, only weakens the constitution, and renders the malady much more inveterate. In defiance of such means, it proceeds, slowly, but surely, towards the lungs, till at last the sufferer learns that it is but a short step from an *ordinary sore throat* to that dreaded malady—a *confirmed consumption*.

When this disease, so slightly noticed at the beginning, and so soon acquired, has passed, as it invariably does, when not arrested, to the Lungs, involving also the bronchial tubes, applications of *Nitrate of Silver* to the throat and larynx always fail, unless they are conjoined with inhalations of some astringent and alterative vapor. No solid or liquid medicine ever finds its way below the division of the windpipe, and rarely more than two and a half or three inches below the epiglottis. The disease below the lowest point to which applications are ever made by the whalebone and sponge, is by far the most important, and yet here, when we rely on these applications alone, it proceeds through its several stages, as certainly as though no treatment were adopted to arrest it—the applications fail, and the remedy is unjustly condemned. This is no imaginary picture. Nearly one half of the consumptive cases under my care, in this city, have been previously treated for “diseases of the throat,” by applications of Nitrate

of Silver, and, as they assure me, not only without benefit, but with a decided increase to their many distresses. At the present moment I have several patients suffering from clearly marked consumption, who attribute their disease of the lungs to "burning their throats." These facts are mentioned, not to censure this treatment, which I constantly employ and most heartily commend in many cases, but merely to illustrate the failure and disappointment which must always occur when the diseased surface is not fully reached by the remedy employed; and this I conceive to be impossible in diseases of the Lungs, by any other means than inhalation.

The term BRONCHITIS is very commonly applied by the public to *diseases of the throat*; and this error is kept up by the folly of medical writers, in using the term, not in its proper, but in its *popular* signification. A book, recently issued from the American press, entitled "GREEN ON BRONCHITIS," has assisted, in no small degree, to perpetuate this error. The book to which I refer is a treatise on diseases of the throat, while Bronchitis is a disease of the bronchial tubes, which ramify in every direction through the substance of the Lungs. Bronchitis is, therefore, a disease of the lungs, and until those who use the term to designate diseases of the throat, can discover the anomaly of bronchial tubes in that part of the body, they will find it difficult to justify so great a perversion of the common sense of the term.

Of the Tonsils.—The glands, so called, are extremely liable to inflammation from slight causes, the professional term for which is *Tonsillitis*, and the popular one *Quinsy*. This is a troublesome affection in all cases; frequently the most distressing to the patient, and never, under any circumstances, unattended with danger. So long as the inflammation is superficial, and confined chiefly to the tonsils, it occasions little inconvenience, and soon subsides. But when its action is different—when it not only spreads to the soft palate, the uvula, the pharynx, and the root of the tongue, but penetrates deeper than the surface, involving structures below the mucous covering of these parts, as is frequently the case, it becomes most harassing to the patient, and rarely subsides without the for-

mation and bursting of an abscess. If the root of the tongue is much involved in the inflammation, the disease is *always serious*, and when it extends into the larynx, the patient is ever in *extreme peril*.

Tonsillitis first manifests itself to the patient, by a sense of dryness, creating a desire to swallow, every attempt at which is followed by a sensation of something "*sticking in the throat*." The distress chiefly arises from a difficulty of *swallowing*. On looking into the throat, when both tonsils are swollen, they may be seen narrowing and almost closing the passage to the fauces, and appearing precisely like two great balls of flesh, jutting out from each side. The sense of dryness is soon followed by a copious discharge of clear, frothy, and very sticky mucus, which the patient hawks in vain to detach from the affected parts. Should the salivary glands become swollen and painful, as occasionally happens, they will pour out a copious supply of saliva, which the patient allows to dribble from the mouth, firmly persisting, at the same time, that he has taken mercury, and is salivated.

In the state of mind which the pain of the disease, and this conviction, unite to produce, the patient dismisses his usual doctor, and calls in a new one, under whose skilful management the poisonous metal is purged from the system; the dribbling ceases, and the patient recovers; at the same time, heartily congratulating himself on the narrow escape he has had from having his constitution ruined by mercury, when, in all probability, he has not taken a single grain! Thus it is that the physician is often unjustly blamed on the one hand for the freaks of disease, and on the other receives credit he does not merit.

There are many other circumstances connected with this troublesome disorder, which it is scarcely necessary to mention in a treatise of this character—such as difficulty in swallowing liquids, pain shooting along the eustachian tube, from the throat to the ears; partial deafness, difficulty experienced in separating the jaws sufficiently to allow the throat to be examined; high fever, rapid pulse, headache, &c. &c.

There is always a vast amount of constitutional sympathy

before suppuration takes place, but the moment the abscess breaks, the whole subsides, and in twenty-four hours the patient is himself again.

Quinsy may terminate without the formation of pus, by a simple subsidence of all the symptoms—pain, heat, redness, swelling, &c., which accompany it. When suppuration is about to take place a slight sense of chilliness is felt. This may be scarcely perceptible, but, nevertheless, it is rarely absent. After the matter is formed, it may sometimes be seen shining through the covering which retains it.

Occasionally, as I before observed, the severity of the disease is not confined to the body of the tonsils and throat, but extends down into the larynx, causing difficulty both of swallowing and breathing. When this takes place, the countenance becomes anxious, and the lips more or less livid. It is in such cases that great danger exists, and demands prompt action on the part of the physician.

Inflammation of the tonsils is common among all classes, and at all ages. Strong constitutional peculiarities do not present themselves in those most subject to it. One patient is of a full habit, another pale and delicate. Many persons have attacks once or twice a year. I attended a gentleman in New York, in the spring of 1852, who assured me that for several years he had not escaped an attack, spring and autumn, and at the present time, moreover, I am attending a lady who is suffering from her *fifth* attack.

The treatment of this complaint will depend on the patient's habit of body, and on the severity of the attack. If the face is flushed, the skin hot, the pulse one hundred to one hundred and twenty, with high inflammation of the tonsils and considerable tumefaction of surrounding parts, blood should be taken from the arm; ten or twelve ounces will, as a general rule, be sufficient for an adult. At the same time, the bowels should be freely purged, by the administration of from two to four of the compound cathartic pills of the shops, followed by half an ounce of sulphate of magnesia in infusion of senna. This insures a thorough evacuation of the bowels. An embrocation, composed of one part of acetic tincture of cantharides and two

of soap-liniment should be placed on a flannel roller, and bound around the neck. This will be sufficient to check the inflammation, and confine it to the throat. If, however, we do no more than this, the attack will linger on, and probably end in an abscess. To prevent this, or to cut the disease short at once, we now employ an anodyne emollient inhalation, as infusion of marsh-mallows, slippery elm bark, or chamomile, with extract of conium, or infusion of poppies. This must be used as hot as the throat will bear, and directed in a large volume against the inflamed parts, without effort to the patient.

The ordinary inhaling instrument is not well adapted to this purpose, owing to the small size of the tubes, but one made of tin, with a large tube and a funnel-shaped mouth-piece, to place over the mouth, is readily constructed, and should find a place in every family.

When the matter can be seen, or when the tonsils become very much swollen, so as to cause an interference, however slight, with the respiration, the tumor should be promptly punctured with a lancet, or what is better with a little instrument contained in a sheath, and designed for this purpose. If matter has formed, the relief which follows will be immediate and complete, and even if it has not, the bleeding from the part will reduce the swelling, and afford present relief. There is some danger of wounding the internal carotid artery which rises up behind the tonsil, but this can only be when the operator is both ignorant and careless; though as there are a few such practitioners of the "God-like Art," it may not be amiss to give this caution.

We have been speaking of the severest form of the disease. The *usual* form of quinsy requires no treatment beyond the roller of flannel about the neck, the embrocation, a purge of salts and senna, and the use of the inhaler for about twenty-four or thirty-six hours.

Chronic Enlargement of the Tonsils is a very frequent consequence of repeated attacks of *quinsy*, both in the child and the adult. On looking into the throat, two irregularly shaped tumors are observed, having an uneven surface, and

appearing as though the outer covering were broken and imperfect, allowing the parts beneath to be seen through the irregular openings. Sometimes one of the tonsils only is enlarged, though more frequently both. The effects produced by enlarged tonsils, are, 1st.—Obstruction to breathing, which may not be very manifest in the child, but is always most serious in its results on the general health. 2nd.—Difficulty in breathing. 3rd.—Imperfect articulation; the speech being thick and guttural. 4th.—Deafness, more or less complete, from the closing of the eustachian tubes. And 5th.—Great liability to attacks of chronic disease of the mucous membrane of the fauces, extending to the larynx, and thence to the lungs.

Elongation and Enlargement of the Uvula—As a consequence of attacks of quinsy, or sore throat, the uvula may become elongated to such a degree as to hang down upon the root of the tongue, keeping up a constant irritation, and disposition to cough, with a desire to swallow. When you see a person suffering from any affection of the throat, close the lips a very few seconds, and make attempts to swallow, you may decide with certainty almost, that he has either enlarged tonsils or an elongated uvula. There is but one means of treating these affections successfully. The enlarged and indurated parts must be removed. It is quite useless to make any application to an inflamed throat, while the uvula is allowed to hang dangling about the pharynx. And it is surprising how much, not only the comfort, but the health also, is interfered with by this simple affection. I have known a robust and healthy man lose in a few months thirty pounds of flesh, while his friends have supposed him to be rapidly falling into an incurable decline. The removal of the uvula, and exercise in the open air, without a grain of medicine, restored him again to health in a few weeks. The operation is performed as follows: the uvula is held about its middle, with a pair of long, slender forceps, slightly eurved at the end. By this instrument, the uvula is drawn gently downwards and forwards, and then with one stroke of the scissors, it is cut off, high up. There is no inconvenience to be apprehended from the removal of the entire part, though it is not necessary to remove

more than three fourths. No hemorrhage beyond a few drops of blood follows, and in a day or two the part is healed. Once removed, the uvula is not re-produced. It is not necessary, in this case, to make any applications.

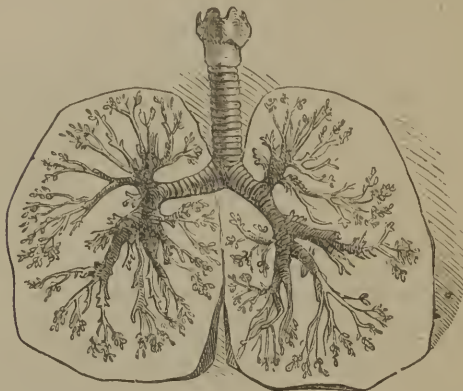
The removal of the tonsil, though a very simple operation, requires more care, from the fact that the carotid artery lies near its base, and if the tonsil be drawn out from the arch of the palate in which it lies, the artery may be drawn along with it, and wounded. This, however, can only occur when *too much* of the tonsil is removed. Some persons prefer a knife having a probe point, and a pair of strong forceps—others, some of the various "*tonsil instruments*;" and I can conceive no sufficient reason, except a vain display of dexterity, for preferring the former to the latter. It is all very well, when the patient is an adult, and has nerve sufficient to enable him to bear the parade of surgery; but for my own part, I prefer a union of safety and celerity, both of which are attained much more certainly by a good instrument, than by the knife and forceps. The instrument most approved of by myself is one having an open circular blade, protected by a ring of steel, with a simple straight *stiletto*, to fix the tonsil. Having passed the tonsil through the ring, the *stiletto* is pressed down, and the blade drawn up, at the same moment, dividing that part of the tonsil which is passed through the ring. The whole is so carefully guarded, that a child may close its mouth, and even bite upon the instrument, without incurring the least danger of injury. The pain attendant on the operation is not worth mentioning, and the whole occupies only a few seconds.

Of the Larynx, Trachea, and Bronchial Tubes.—We commenced with diseases of the throat, because they are frequently the fore-runners of more serious mischief within the chest. It is a fact upon which pathologists are generally agreed, that affections of the throat usually extend their influence sooner or later to the lungs.

We have seen that the diseases of the throat are quinsy, enlargement of the tonsils, thickening and elongation of the uvula, simple inflammation of the throat, and chronic enlargement of the mucous follicles.

Let us now pass from the throat into the windpipe.

Here you see a cut, illustrating the several parts concerned in respiration, and in the production of the voice. The upper part or head of the large tube, that situated above the eiren-



lar rings, is called the *larynx*. From the lower part of the larynx to the division of the tube into two sections, we have that portion of the windpipe called the *trachea*. When the trachea has reached a certain point in the chest, as shown in the cut, it separates into two branches which immediately enter the lungs, that on the right side being called the right bronchus, that on the left the left bronchus. These again subdivide into innumerable smaller branches, called "*bronchial tubes*," which may be seen passing in every direction through the substance of the lungs, and finally terminating in little clusters of cavities, called "*air cells*," or "*air vessels*."

The larynx is composed of four cartilages, which are held together by ligaments and muscles. It is lined by mucous membrane, and is continuous with the trachea. There are two openings into the larynx; the first is called the "*glottis*," and is closed by a little valve which rises up from the root of the tongue, designated "*epiglottis*." On the approach

of food or drink, this little sentinel shuts down upon the entrance to the lungs, and allows the nutriment to pass on to the stomach. Neither solid nor fluid, in even the smallest quantities, can pass into the windpipe, without producing violent cough and great distress, followed by a sense of suffocation; and these continue until the offending matter is rejected.

Three quarters of an inch below the glottis, we have what is termed the *rimæ glottidis*. It is like a slit, the sides of which are formed by ligaments known as "*chorde vocales*" or the "*vocal chords*." It is here that the voice is produced. These little chords are rendered vibrative, producing that infinity of tone by which language is made intelligible, and sound itself becomes one of the most striking manifestations of the divine power.

Below the *rimæ glottidis* the larynx enlarges, becomes irregular, and soon ends in the trachea. The whole length of the tube, to which the name larynx is applied, is not more than from one-and-a-half to two inches. It is important to remember this, since all diseases are named, by uniting the term which indicates the nature of the disease, with the name of the part in which it is situated. Thus, we say, a patient has "*laryngitis*," or inflammation of the larynx; "*tracheitis*," or inflammation of the trachea; "*bronchitis*," or inflammation of the bronchial tubes; and so on. By knowing the situation of these parts, you know also the situation of your disease, by the name applied to it by your physician. Let us now consider the diseases of the larynx.

Laryngitis, or Inflammation of the Larynx, is one of the most terrible of maladies. There are but few, indeed, of those who have been its subjects, who have not also been its victims. The mighty genius at whose shrine every American bows with mingled feelings of reverence and gratitude—the great Washington—fell a sacrifice to it; so have also several eminent physicians, Sir John Maenamarra Hays, Sir George Tuthill, and Dr. David Piteairn.

Laryngitis is inflammation of the mucous membrane of the larynx. It begins as a sore throat, but the superficial inflam

mation of the throat is soon lost sight of, through the urgent distress produced by the disease within the larynx.

The patient complains of *sore throat*, but with this there is an indescribable *restlessness* and anxiety of countenance. Soon, a *difficulty of breathing* is experienced, and with it, also, a *difficulty in swallowing*. The voice is at first *husky*, then gradually becomes more and more indistinct, until the patient speaks only in a whisper. There is a *wheezing* sound produced by the air in respiration, and each attempt at cough results in an imperfect strangled kind of sound. On being asked for the seat of his suffering, he points to the larynx. As the disease progresses, the face becomes livid, the eyes protrude and are rolled about from one point to another in restless despair; he signs for the windows to be raised, tosses himself about and gasps for breath, then gradually falls into a state of stupor; the last token of failing life being the *rattle of strangulation*.

In a work designed for the profession, it would be interesting to enter into a consideration of the changes which take place in the parts affected, and which directly lead to the fatal termination; but in a book designed to render this subject intelligible to the *general reader*, such would be out of place.

The treatment of laryngitis has, I conceive, been much improved within the last ten years. The old routine—"bleeding from the arm," "calomel," "purges," and "leeches to the neck," will end in failure in three cases out of four. I do not mean to say that it is not often advisable to bleed, and beneficial to purge; but I *do* mean to say, that if something more be not done, there are three chances for the patient to die, to one that he will recover. What, then, is that something? It is to make a direct *local* application to the part *affected*, to depress the tongue, so as to elevate the epiglottis and open the entrance into the larynx; then, to pass into it, as advised by Belloc and Trousean, a sponge charged with a strong solution of nitrate of silver. This is frequently difficult even to those who have had much experience, and always so to the general practitioner, to whom however, it is unavoidable to delegate it under the urgency of the circumstances. The stake is life, and the grim tyrant, *death*, is already in the field with his entire force. The battle

must be fought before the strength is exhausted, or it will be lost in spite of all our art has to offer. Again and again, then, at intervals of a few hours, the application must be repeated, until the imminent danger is past. In the interim between the applications of the sponge, anodyne, and emollient inhalations, as hot as they can be borne, must be kept up from a suitable instrument, quiet enjoined, a diet of water gruel, which, together with good nursing, will complete the victory, and rescue the patient from the jaws of death in three cases out of four. This treatment will just reverse the rule of the other treatment, by *saving* what that would *lose*. But the fourth, from not being seen sufficiently early, from the severity of the disease, or from the nature of the general health, would not be saved even by local applications and the use of the inhaler. The disease might be mitigated, and yet nature prove too feeble to rally. Now, what is to be done in the fourth case? Give up in despair?—console yourself by the reflection that all has been done that can be, and wait to see the patient die?—administer the sacrament, and call upon God for a special dispensation of His providence? No, none of these. The patient is *strangling*. He is dying, not because the vital powers of the body are destroyed by disease, but *for want of air*! The cause of death would scarcely be more mechanical if a rope were put about his neck and gradually tightened. The upper part of the windpipe is being closed up. We must give the patient air, and this can only be done by the operation of "*tracheotomy*," which means, in plain English, cutting a hole into the windpipe below the diseased part. This is somewhat difficult, because of the patient's distress. He will not be still, or throw back the head, to allow the operation to be performed with ease, but still it can generally be accomplished without much difficulty, and, unless the operator combine a want of knowledge with great carelessness, without the slightest danger. A trocar is sometimes used to penetrate the trachea, but it is an unsafe instrument. The trachea is very movable, and liable to roll under it, in which case the point of the instrument may slip into the jugular vein or carotid artery, which lie on each side, instead of into the windpipe, in which case, I need hardly tell you

that a subsequent attempt to complete the operation would be quite unnecessary. Having let out the blood, the surgeon might dispense with letting in the air. The moment the opening is made and the air admitted to the lungs, the most sensible and manifest relief is experienced. The anxiety of the countenance vanishes, and with it, the restlessness and tossing about. Soon exhausted nature finds repose in sleep, on awakening from which, the poor sufferer stares about him with as great astonishment as though he had actually risen from the dead. Whoever has been present on such an occasion, will accord high honor to this triumph of the healing art.

Chronic Laryngitis.—The Larynx is also subject to Chronic Inflammation, which, by the way, is a much more common disease than the acute form. Chronic Laryngitis often results, as a sequel, or consequence, of *sore throat*. The irritation escapes down, and fixes itself on the delicate organism of this part, and thence gradually journeys onwards to the lungs. The effects of chronic inflammation are very different from those of the acute form. When it occurs, as a consequence of CATARRH, the symptoms are mild, consisting in slight tenderness over that prominence of the neck, known as the "*apple of Adam*" (*pomum Adami*)—a whistling kind of cough, a heat, and sense of tightness, with slight difficulty in swallowing. In this form, the disease is simple, and readily removed in a few weeks by the inhalation of an astringent vapor, with attention to the general health.

More commonly, however, Chronic Laryngitis occurs as a sequel of Consumption, and is produced, or at least very much aggravated, by the irritation of the expectorated matter. Occurring as a consequence of tubercles, it is one of the most distressing complications, and adds doubly to the patient's distress. In this form there is always more or less *ulceration* about the vocal chords, beginning on the lower side and gradually extending upwards. These ulcers often penetrate through the mucous and cellular membranes involving the muscular tissue, and not unfrequently attack the ligaments and cartilages themselves.

When the laryngeal disease is secondary to that of the lungs

and dependent upon it, we can only hope to effect its removal by those means which will remove its cause, and these will be fully considered under the head of "Consumption."

In addition to inflammation, *acute* and *chronic*, the larynx is liable to abscess, to warty growths, and to polypi. Under the action of long continued irritation, the vocal chords become *thickened*, rendering the voice *husky* and indistinct; and, again, we may have complete loss of voice from *palsy* of these chords, constituting a disease known to physicians by the term "*Aphonia*."

OF THE CAUSES

WHICH PREDISPOSE TO

DISEASE OF THE LUNGS.

It is a matter of surprise with many that the Lungs should be so much *more* liable to disease than other organs of the body. This greater liability is easily explained. Every change in the *temperature*, the *humidity*, or the *density* of the air we breathe, is at once felt within the cavity of the Lungs; and in this climate, and in the climates of England and France as well, such changes are very frequent and very sudden, causing often a fall of twenty degrees in the thermometer within the space of a few hours. But it is not to *natural* vicissitudes that the Lungs are *most* exposed. In narrow and filthy streets we inhale the poisonous and irritating gases generated by decomposing matter. In crowded rooms we obtain barely oxygen enough to sustain respiration. In shops for grinding and polishing brass and steel instruments, the fine spiculae of the steel are drawn in, along with the air, and serve as irritants to the Lungs. Polishers of wood and stone-cutters, and the operatives in cotton and woollen factories, are all constantly breathing an atmosphere charged with irritating impurities. Many of the occupations of life are sedentary, and confined to an impure atmosphere. Others cramp the chest, and prevent the proper action of the Lungs. To-day we are in the open air; to-morrow we may be confined to a close room—perhaps the sick chamber of a relative, breathing the poisonous emanations exhaled by small-pox or typhus

fever. Now, we are strolling leisurely along the walks of a garden, inhaling the fragrant perfume of flowers. An hour hence, we may be exposed to the noisome and offensive stench of carrion. In the morning, the air is clear and bracing; at noon, it may be raw and damp. At the evening party, at the theatre, or in the ball-room, we draw into the lungs an atmosphere heated to the temperature of midsummer; then sally forth into the air, without any protection to the lungs, when the thermometer is ten degrees below zero. With all this to bear—much of which is due to our artificial modes of life, and, therefore, unnatural to our bodies—it certainly cannot be wondered at that disease so frequently fastens on the lungs. While the sufferings and the untimely end of the consumptive are hidden beneath the pleasures of fashionable life, the couch of sickness and the premature grave will not want for tenants from the ranks of youth and beauty.

Of Bronchitis.—The mucous membrane lining the bronchial tubes is very liable to inflammation. This is of two kinds—*acute* and *chronic*.

By reference to the preceding cut (see page 10), you will see that the bronchial tubes are entirely within the lungs, and may aptly be compared to the branches of a tree, in their innumerable ramifications. "*Bronchitis*" is a disease of the lining of the bronchial tubes, and consequently a disease of the lungs, and not of the throat, as it is generally regarded. In health, the mucous membrane is always moist. When it becomes inflamed, a change takes place. Suppose while out, you get your feet wet, or are in some way exposed to take cold, you soon experience a sense of a stuffing in the nostrils; you find it impossible to breathe through them, although, as yet, there is no secretion—the membrane is *dry*. If you could now examine the lining of the nostril, you would find it red, swollen, increased in thickness, and very irritable. Try to inhale the cold air through it, and the attempt excites *sneezing*. This irritation may extend from the lining of the nose to the frontal sinuses; often pain is felt over the *forehead*. It may also extend through the lachrymal canals, which convey the tears from the eyes, closing them up, as it has done the nose. In that

event, the secretion of tears will be increased, and in consequence of the closing of the tear passages, will run over the cheeks. The skin is hot, the pulse is increased in frequency, and a shivering or chilliness is felt over the body. After a time a clear, irritating water is secreted in large quantities by the inflamed membrane, and almost runs from the nose and eyes, producing redness and smarting whenever it comes in contact with the skin. Gradually this acrid water becomes thicker and less irritating; of a straw color, and then yellow. As this change takes place, the irritation subsides; the nostrils again become free; the stuffing in the head passes off; and the secretion diminishes until the health of the patient is fully re-established. This is the usual course of what is called a "*cold*" or "*catarrh*," when confined to the nose. But it may possibly extend to the throat, involving the fauces, tonsils, and uvula; and then it is called a "*sore throat*." If the tonsils swell very much, the disease is called "*Quinsy*." A simple cold in the head may also proceed along the eustachian tubes to the ear, and so cause *deafness*; or down the gullet, to the stomach, deranging digestion. The most common course of catarrh, however, is to creep insidiously down to the lungs, when it is popularly known as "*a cold in the chest*," and professionally by the name, "*Bronchitis*."

All the changes, too, which take place in the head, also occur in the lungs; but there the effects are more serious and severe; the patient feels a tightness and a constriction of the chest, the voice becomes hoarse, and there is a dry cough, with a sense of soreness about the glottis and windpipe. At first there is no secretion, but in a short time acrid and then transparent water is discharged, with much coughing. It is *frothy*, and generally has a *saltish* taste. At the expiration of thirty-six or forty-eight hours, this becomes of the consistence of *glue water*, but still retains its *transparency*. It has been very justly compared to the albuminous portion of a raw egg. Gradually, however, this secretion becomes *white*, then *opaque*, changing again, by degrees, to a *yellow*, or *greenish yellow* color. The breathing is hurried and short. Fits of coughing occur, attended by expectoration, which is sometimes streaked with blood.

The cough is most troublesome after meals, or on rising in the morning. After each fit of coughing, a dull pain is frequently felt, corresponding with the part from which the expectorated matter is detached.

Catarrh of the Head is, of all diseases, the most common. In this climate there are few persons who are not affected by it once in each year. Nevertheless, it is but little understood, and badly treated. Apparently *simple*, it yet lays the foundation for the most dangerous maladies. Easily *cured*, it more frequently becomes chronic through neglect, than any other disease to which we are subject.

Catarrh of the Lungs, or Bronchitis, is always attended with danger. Death sometimes ensues within forty-eight hours of the attack. In such cases, the inflammation extends over a large portion of the lungs, and is very intense. The difficulty of respiration amounts to a sense of strangulation. The lips and cheeks become purple, changing to a livid paleness; the countenance is anxious in its expression; the eyes have a wild stare; a cold sweat starts out, and stands in drops over the forehead; delirium comes on, and the patient relapses into the stupor of death. The obstruction to the bronchial tubes is so great, under these circumstances, that air enough cannot be drawn through them to produce the change in the blood from *venous* to *arterial*. The circulation of the venous blood causes the blueness of the lips and the pallor of the countenance. It is the object of respiration to change the blood from a *dark* to a *bright red color*. This change is produced by the *air* in the lungs, and cannot occur unless it is received in sufficient quantity. The *carbon*, which constitutes the impurity of venous blood, poisons the entire system, and its action on the brain causes delirium, insensibility, and death.

Generally, however, Acute Bronchitis is a mild disease, and subsides entirely at the end of a week or ten days, when the patient returns again to his usual health. Or the more acute symptoms *only* may subside, the cough and expectoration continuing after the fever has wholly disappeared; constituting what is termed "CHRONIC BRONCHITIS." In this form there is some-

times slight fever occurring towards evening; the patient does not regain his wonted strength or flesh, but remains a little paler than before his attack. Exercise proves that there is some *shortness of breath*, indicated by an oppressed feeling in the chest. During the summer the cough and expectoration are both considerably lessened, or else quite disappear; but on the return of winter again manifest themselves; then the expectoration becomes very copious. Hectic fever may supervene, with night sweats, and rapid wasting of the flesh and strength, and the patient may die with all the symptoms of *pulmonary consumption*.

It is very common to meet this disease, in a milder form, in persons who speak of it as a "*winter cough*." It comes on each winter, and as regularly subsides during the summer; but at every succeeding occurrence, it manifests itself in greater severity; and the recovery in the following summer is not so complete. This form of bronchitis, if neglected, will as surely destroy life (and, treated in the usual manner, it is as incurable), as consumption itself. The mucous membrane, sooner or later, becomes altered in structure, and pours forth a matter which has all the qualities of pus. Hectic fever supervenes, and the disease tends slowly, but surely, to a *fatal termination*.

Another form of bronchitis is peculiar to middle life and *old age*. It is distinguished by the *quantity* and the *quality* of the matter expectorated. In color and consistence the expectoration is very much like gum water, and varies from one to several pints in twenty-four hours. I have a gentleman under treatment at this time, who assures me that he has frequently raised a pint and a half in the course of the morning. Usually there are two fits of coughing in the day: one on awakening from sleep, in the *morning*; the other in the *evening*. There is considerable difficulty of breathing while the paroxysms of coughing last, but it passes off as soon as the lungs are freed from the viscid secretion. The patient is feeble; he may, however, live, and attend to light duties for several years. But the countenance gradually assumes a pale, bluish tint, the body wastes, the blood becomes thin, and death ensues, apparently from the constant drain kept up by the discharge from

the lungs. Some patients die from exhaustion in five or six months, but I have known others to survive for as many years.

There is still another form of this disease, called "*Dry Bronchitis*," from the fact, that in the quantity of matter expectorated, it is the very opposite of the variety we have just considered. The essential character of *Dry Bronchitis* consists in chronic inflammation, attended by a thickening of the mucous membrane, by which the air tubes are very much diminished in size, and also in the secretion of a dense, glutinous kind of matter, of a *greenish* or *bluish white* color, by which they are still further obstructed. The smaller bronchial tubes are often entirely closed, and occasionally a tube of very considerable size becomes *sealed up* by this matter. This affection is so common in this climate, that in some degree it is probable that two out of every three suffer from it. "In the most favored parts of France," says Laennec, "fully one half of those arrived at adult age, will be found, on careful examination, to present evidence of a thickening of some portion of the mucous membrane of the lungs."

The symptoms of this disease are not marked by severity. It is the most insidious of pulmonary complaints. The subject of it is conscious only of being *short-breathed*, when ascending an elevation, or attempting to run. When a large portion of the lung is involved, a sense of oppression is experienced after meals and on every slight exertion. By some, this oppression is referred to the opposite side of the chest to that on which the disease is situated, or to a remote part of the same side, or even to the region of the stomach. After a time, *difficulty of breathing* comes on, and continues for several days, the patient complaining of a *tightness* in the chest, which is relieved by cough, and the expectoration of a tough, *jelly-like* substance. The cough by which this matter is raised, is a mere rasping effort to clear the throat, and may probably not occur more than once or twice daily, and almost unconsciously to the patients themselves. On inquiring if they have a cough, they will almost without exception answer, "no;" yet, during your conversation, they will perhaps *hack* and raise a little jelly-like

mucus half a dozen times. At intervals, the cough is more severe and comes on in *paroxysms*, when it is too commonly regarded as simply "*nervous*." If the stomach be at all deranged, it is fashionable to regard it as a mere "*stomach cough*," or as being caused by "*liver disease*," while, in fact, the derangements of the stomach, liver, kidneys, and of the uterine function, which exist, are but so many consequences of this very condition of the lungs. There is something so gratifying in being assured by the kind, attentive, and often really intelligent family physician, that there is "*no danger of consumption*," that "*this cough is a mere trifle, and will speedily pass away, if only left to itself*," that it is not surprising the flattered patient entirely overlooks the important fact, that no careful examination of the lungs has been made, to determine the health or disease of this organ; that this gratifying opinion, therefore, is founded on nothing reliable, and reduced to its intrinsic merits, is simply tampering with human life.

Most "*coughs of long standing*," unattended by free expectoration, are caused, either by this condition of the bronchial tubes, or by incipient tubercles in the lungs. The "*NEGLECTED COLD*," which so often proves the herald of consumption, is but another variety of this disease.

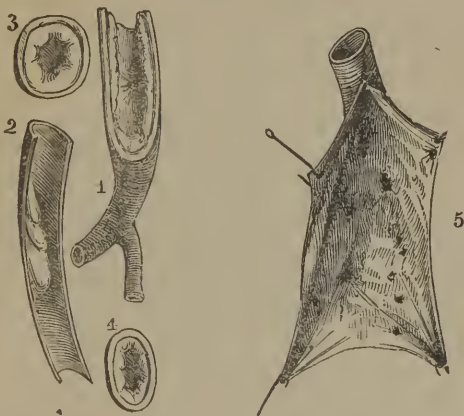
The frequency of this form of bronchitis—its slow, insidious, and treacherous progress—and the disastrous consequences to which it so often leads, should awaken from their lethargy all who are nursing dry coughs of long standing, in the vain hope of growing out of them. However slight and apparently unimportant such coughs may seem, they lead on, by *sure gradations*, to a premature grave.

In addition to these varieties of bronchitis, all of which, it will be well for you to remember, have their seat in the mucous membrane of the air tubes of the lungs, there are several others, which are less common, and therefore of less importance. Of these, we have a form of *plastic inflammation*, characterized by a kind of false membrane forming on the inside of the tubes, sometimes only in the larger branches, and again extending through the smallest ramifications. It is, in fact, more commonly seated in the smaller tubes, diminishing considerably

their size. Again, we have the very opposite to this state—namely, an enlargement or dilatation of the air tubes. This occurs in several forms. The bronchial tubes, in one lobe, or a whole lung, may be enlarged *uniformly*; or they may be merely swollen out at the *extremity*, in a globular form; or there may be alternate *contractions* and *dilatations* along the tubes.

In addition to these, we have ulcerations of the mucous membrane of the lungs resembling (of the same character, and produced by the same causes as) ulcerations in the throat. The following cuts will fully illustrate what I have said in reference to the effects of bronchitis on the air tubes.

The treatment of the several forms of bronchitis will be given in connexion with the treatment of consumption.



Figs. 1, 3, and 4 are examples of thickening of the mucous membrane and diminution of the size of the air-tubes.

Fig. 2 shows a portion of bronchial tube in which are seen accumulations of mucus.

Fig. 5 represents ulceration of the mucous membrane of the bronchial tubes.

OF CONSUMPTION.

I now come to speak of that melancholy disease, which, from its prevalence and the mortality that results from it, has long been regarded by the public, and to a certain extent by the medical profession, as essentially fatal. It is the commonest thing in the world to hear aged wisdom pride itself on holding the good old-fashioned opinion that "*consumption can't be cured*;" and now and then we have to sigh for the patients of some amateur in the healing art, as he announces his devotion to the honored authority of "*public opinion*," in defiance of the most positive facts and the united testimony of every author of character on the subject. It is not, however, my intention to combat this error under this head; I will, therefore, proceed to detail the symptoms which indicate the approach or presence of this terrible malady, that they may serve as beacons to those who are now in the enjoyment of health.

Consumption, in its early stages, has its seat in the air cells and minute branches of the bronchial tubes. As it proceeds, however, all the structures in the part in which the matter is deposited, become involved.

Symptoms of Consumption—Cough.—As the lungs are the seat of the disease, it is natural that we should find the first manifestation of it in some derangement of their function. One of the earliest symptoms noticed, is "cough." It is dry, and is first discovered on the patient's getting out of bed in the morning. After an interval, it is also experienced during the day, especially after exertion; and again at night, after retiring. For some time this cough is so slight as to be entirely overlooked by the patient, and may scarcely be regarded by his friends, being, in reality, little more than one or two imperfect attempts to cough.

After the lapse of some weeks or months, the morning cough is observed to be attended by the expectoration of a clear, ropy fluid, like saliva, which is supposed by the patient to come from the throat. By degrees this comes to be continued with the cough throughout the day, though much less than in the morning.

Now, when such a cough steals upon a person, without any apparent cause, it should excite suspicion, and lead to the most searching examination. It may possibly prove unimportant, for cough does not always end in consumption; but, nevertheless, it is likely to indicate the approach of serious mischief. Cough is not always present, even in confirmed consumption, for occasionally a case runs through *all* its stages, without there having been any cough, beyond a gulping kind of effort in raising the matter. This, however, is rare.

Expectoration—After a time, varying in different cases, little points of a pale yellow, or greenish, or greyish yellow matter, are observed in the transparent mucus expectorated, and about the same period, specks and streaks of blood are occasionally seen. The transparent expectoration becomes less as the disease advances, while, on the other hand, the opaque yellow matter is greatly increased in quantity. There is no uniformity in the amount expectorated, in different cases, even in the same stage of the disease. Occasionally the quantity is very small, even where there is extensive disorganization of the lungs. While, on the other hand, the amount may be large from the commencement, steadily increasing until it exceeds a pint in twenty-four hours. Many patients do not expectorate until very late in the disease, and in some, death occurs before the lungs have begun to break down.

Shortness of Breath is often one of the early symptoms, and is first observed by a person ascending stairs, walking up hill, or in any active exertion, at which times the sensation is accompanied by a feeling of "*tightness*," and, perhaps, of *slight oppression* in the chest.

Towards the close of the disease this constitutes, often, the principal distress of the patient. Many persons who experience this symptom, on being questioned with regard to it, will

make a deep inspiration, and then forcibly strike the breast with the fist, remarking, "*There is nothing the matter here ;*" to which declaration they anticipate unqualified assent from the physician. But, unfortunately, this is no test. Shortness of breath is generally much increased before hemorrhage, and relieved by the loss of blood. The term, "*shortness of breath,*" is used in the same sense as hurried or rapid breathing. The number of respirations, in health, varies from fifteen to seventeen in the minute ; but, in this disease, it is no unusual thing for them to increase to twenty-five or thirty, and that, too, without exciting the attention or alarm of the invalid.

Spitting of Blood, or Hemorrhage from the Lungs, occurs, in a large proportion of cases, at some period of the disease. By the term "*hemorrhage,*" I mean every discharge of blood, from a few streaks in the expectorated matter, to one or more pints of pure unmixed blood. There is considerable variety in respect to the stage of the disease at which bleeding from the lungs may occur. Many persons spit blood years before any symptoms of consumption are noticed, and when, by general observation, they would be pronounced healthy. In others, the first attack of hemorrhage dates the commencement of the disease ; the cough, the expectoration, the hurried breathing, are all referred and ascribed to the bleeding. Some do not raise blood until late, and in a few instances it runs its entire course without even a tinge of blood in the expectoration.

According to Andral, hemorrhage occurs in about five cases of consumption out of six. Louis found it in fifty-seven cases out of eighty seven ; and Professor Walshe, one of the physicians of the London Consumptive Hospital, in eighty-one cases out of every hundred ; so that we may regard it as a rule that, at some period of the disease, hemorrhage from the lungs occurs in the ratio of about eighty per cent.

This symptom possesses a fearful interest, from the melancholy truth that it rarely happens, except as a *consequence of serious disease* within the chest. The loss of blood is an indication of the presence of *tubercles* within the lungs ; and from these tubercles will arise, sooner or later, all those changes and symptoms which constitute Consumption. On this point there

is much error. It is by no means unfrequent for physicians to cheer their patients by the assurance that the blood has "*only come from the throat.*" Let me warn you against being deceived. The throat rarely bleeds. *In nine hundred and ninety-nine cases out of a thousand, when you cough up blood, however small the quantity, that blood comes from the lungs, and speaks a terrible warning.*

If you value health, if you prize life, if you have any object that renders existence desirable, begin *now* to earnestly resist the progress of this fearful malady, the seeds of which are sown in the most vital part of your body. Hemorrhage from the lungs may be caused by an injury to the chest, or by organic disease of the left side of the heart; and, now and then, in the female, it will occur regularly every month, in place of the usual periodic excretion. If a person spits blood who has received no injury to the chest, in whom the uterine functions are natural, and who has no disease of the heart, the presumption that there are tubercles in the lungs, amounts to a fearful probability. Of such cases, Louis, a celebrated French physician, did not meet with a single instance, out of *twelve hundred cases*, in which the hemorrhage was not preceded or followed by the development of Consumption.

Pain in the Chest is a very unreliable symptom. Often it does not occur until late in the disease, and I have known the lungs to be broken down, and large ulcerous excavations formed, without the patient even complaining of the least pain. Generally, there is a sense of *weight* and *oppression*. Some patients feel *sharp pains* below the *collar bone*, beneath the *shoulder blades*, or in the *side*. In others, there is a *dull aching*, or a sense of *burning* in the same parts. The seat of the pain is frequently distant from the part affected. It is not unusual for the pain to be experienced in the right lung, while the disease is confined to the left, or *vice versa*.

The *pulse* is usually much increased in frequency and feebleness. There is a remarkable connexion kept up between the pulse and the number of respirations per minute. Each additional respiration above the standard of health will be found to raise the pulse about *five* beats. Those cases in which the

pulse is but little disturbed, are more favorable than those in which it ranges from one hundred to one hundred and twenty.

Hectic Fever, if followed by Night Sweats, is a symptom of great moment. Where the fever is preceded by a chill, it is often mistaken for a paroxysm of ague, and treated without leading to a discovery of its connexion with the disease in the lungs. It creeps upon the patient insidiously, and increases by slow degrees. Towards evening he feels *chilly*, or shrugs up his shoulders, or turns his back to the fire. After he gets into bed, the hands and feet are *hot*, and towards morning he *perspires*—at first, slightly, but as the disease advances, so profusely, as to drench every thing about the bed. Probably, one in every ten escapes “*night sweats*” altogether. These sweats seem to have some connexion with SLEEP. They rarely occur while the patient is awake. So distressing is this symptom, that many afflicted by it dread the return of night. The exhaustion, and the rapid wasting of the flesh, both of which occur in this disease, are in a great degree due to the debilitating effects of night sweats.

Thirst generally exists, to a certain extent, though it is not a very marked symptom. Many do not complain of it at all, while, with a few, the desire for cold drinks is almost constant. At present, I am treating a young gentleman in South Brooklyn, who suffers from the most unquenchable thirst. If permitted to do so, he would swallow several tumblers of cold water at a meal, though he would not take two ounces of solid food during the same time.

Diarrhœa is one of the most important symptoms of Consumption, since the rapid wasting of the flesh, and the sense of prostration from which all consumptives suffer, are in a great measure the immediate consequences of it. Generally, diarrhœa is a symptom of the advanced stage, but in about one eighth of the cases it commences with the disease, and continues until death. At times it occurs in paroxysms every week or ten days, and is preceded and followed by *constipation*. When diarrhœa becomes chronic, and resists all treatment, it is invariably caused by ulceration of the small glands scattered

over the inner surface of the bowels. During the purging the cough is *sensibly lessened, and also the expectoration.*

Emaciation.—The “*losing a little flesh*” is often one of the earliest symptoms; wasting is the peculiar mark of the disease.

It goes on, though the appetite may be good, and the food abundant and nutritious. This, however, is not the case invariably, for the disease not unfrequently makes considerable progress before the patient becomes visibly *thinner*—a result seen most commonly in young women.

When a person, without any apparent cause, becomes thin, and has, at the same time, a quick pulse and hurried breathing, you may almost certainly conclude that there is mischief in the chest, though that circumstance may never have been suspected by himself.

Paleness of the Countenance very frequently precedes the development of the disease in the lungs, and exists as the exciting cause. A person takes *cold*, and has catarrh in the head; the *soreness of the throat* gradually becomes a *hoarseness*, and in the end the patient has a *seated cold in the chest*. This seated cold, after a time, is followed by the deposit of tubercles, when the disease becomes *Consumption*.

Such cases are very common, and are also very liable to the distressing complications of ulceration of the *larynx* and *epiglottis*.

The **Appetite** is very variable; at times ravenous, and again miserably poor.

The **Bowels** are usually costive before the disease makes its appearance; after it is established, they become more *regular*, or too *loose*, ending in *diarrhœa*.

The **Circulation** is feeble and imperfect, the hands and feet are *cold*, and, as the disease advances, below the eyes, the lips, and the hands become of a livid color.

The **Menstrual Function** is generally suppressed after the first few months of the disease. The destructive changes going on in the lungs seem to absorb all the energies of the system. Often the attention is not even attracted to the lungs, until long after the menstrual function has become suppressed. It is no unfrequent occurrence for strong medicines to be prescribed by the careless physician, with the view of restoring

the suspended discharge; and he only discovers the folly and cruelty of such a course when the disease in the lungs becomes too manifest to be any longer mistaken. To cover his carelessness, he then attributes the deposit of tubercles in the lungs to the disarrangement of menstruation, while, in reality, it is but one of the common consequences of Consumption.

Hoarseness.—Generally, there is more or less hoarseness in the advanced stages of Consumption, and the condition of the larynx, on which this depends, is extremely liable to pass into ulceration, involving also the epiglottis. This is one of the most distressing complications that can possibly occur, to add to the patient's misery; occasioning as it progresses loss of voice, and sharp pain and difficulty in swallowing. This is sometimes misnamed "LARYNGEAL CONSUMPTION." It is caused by the irritation of the matter passing from the lungs, and rarely occurs except when the lungs are filled with tubercles.

Of the Kinds of Consumption.—There are no less than five kinds of consumption.

1. ACUTE CONSUMPTION.
2. CHRONIC CONSUMPTION.
3. CONSUMPTION IN INFANCY AND CHILDHOOD.
4. FEBRILE CONSUMPTION.
5. LATENT CONSUMPTION.

The first variety runs a very rapid course, terminating in from four to six weeks. It is what is properly and expressively called, "*Gallopig Consumption*," from the rapidity of its progress. There are two forms of this variety. In the first, the disease sets in with great violence. A person, apparently in good health, is attacked by a *cold*; he has a cough, hectic fever, and morning perspirations from the beginning. At the end of a week he commences to expectorate. The cough increases daily, and with it diarrhœa sets in, under the combined influence of which death ensues in from twenty-one to thirty-five days. In the majority of these cases, the disease is, in reality, of much longer duration, but has been overlooked in its early stages. The tubercular matter has been in the lungs for months, reposing unsuspected, and on the occurrence of a sufficient exciting cause, has developed itself. I have known such cases as these to be mistaken for inflammation, and the work of de-

struction speeded onward by the injudicious and ignorant employment of "*calomel*," "*antimony*," "*bleeding*."

The *second* form of Acute Consumption occurs in young and delicate persons; those having habitually cold hands and feet; whose circulation is feeble; who are strongly predisposed to Consumption, and who, even in health, become weak and fatigued by every slight exertion. In such cases, the destroyer steals silently upon his victim. The patient scarcely feels ill—there is but little cough, no pain, no spitting of blood, often no expectoration. As she was always *short-breathed*, and liable to *cold*, any cough that may exist is attributed to a "*little fresh cold*," as it is called. Gradually the countenance becomes pale, of a leaden hue, the lips of a bluish color, and the whole features become sunken. Under these circumstances, without any increase in the cough or expectoration, *diarrhœa* occurs, and after a few exhausting discharges, the patient dies without a struggle, sitting up in her chair, or probably in a fainting fit, from which her friends strive in vain to restore her.

The second variety, or *Chronic Consumption*, is so named from its long duration. It is the usual form of the disease, occurring in the adult, and has been sufficiently described in the narration of the general symptoms of the disease.

The third variety, or *Consumption in Childhood*, differs widely from consumption in the adult. There is no spitting of blood, or if so, very rarely. The cough occurs in paroxysms, the expectoration is invariably *swallowed*, and therefore is unobserved; the perspirations are confined to the head and neck, while the hectic fever is much less observable than in grown persons. The breathing is hurried, the cough peculiar and frequent, and the wasting of the body gradual. In addition to all this, we have derangements of the stomach, and *diarrhœa*, alternating with constipation of the bowels. A large proportion of deaths in childhood occurs from *diarrhœa* in the early forms of this disease.

Febrile Consumption.—This is the fourth variety of the disease, and differs from the second form of Acute Consumption, mainly in the suddenness of its attack, and in its being attended throughout by high fever. The pulmonary symptoms are

so masked by the fever, that during the early stages the complaint is likely to be mistaken for "*bilious remittent fever*" complicated by *catarrh*. I have known this error to be committed in many instances, by those not very conversant with disease of the lungs. Cough soon appears, and rapidly increases, followed by expectoration; when the physician becomes awakened to the true danger of the case, generally too late, however, to remedy the mistake, or to retract the opinion he has expressed of its nature.

The fifth variety is called "*Latent Consumption*," because tubercles exist in the lungs for a long time without manifesting any of their usual symptoms. There is no cough, no expectoration, no spitting of blood; yet, though silent and unsuspected, the work of destruction is going on. This form of the disease is called "*latent*," because the tubercular matter remains dormant, and does not undergo the usual changes. In some instances there is *hectic fever*, *night sweats*, and *wasting of the flesh and strength*. When these occur, there is sufficient to excite suspicion, and to direct attention to the lungs. But far more frequently there are neither constitutional nor local symptoms, until the disease is much advanced. This form of consumption demands the most careful scrutiny, because of its insidious character. There is something in the countenance which is readily detected by the practised eye of the physician, but which is entirely overlooked by the nearest friends. The patient is evidently out of health, and failing, but since he never complains of anything in the lungs, the physician has rarely an opportunity to investigate the case, until the disease is firmly established. The sufferer goes on, feeling weak and desponding, perhaps becoming thinner, and has little energy of mind; but still remains oblivious as to the true cause of the mischief. If, at this stage, the physician in attendance, either from ignorance or carelessness in his examination, fails to discover the real condition of the lungs, and to adopt immediate means to arrest the further progress of the disease, the patient is irrevocably lost. This variety of Consumption is far more common than is supposed, and promptly and judiciously treated, is the most curable of all. Speaking of the frequency of

this form of the disease, Laennec remarks: "We may, indeed, say that the greater number of cases of consumption are *latent*, since nothing is more common than to find tubercles in lungs, otherwise quite healthy, and in persons who have never shown any symptoms of phthisis. It has frequently appeared to me, from carefully comparing the history of my patients with the appearances on dissection, that the greater number of *first attacks* are mistaken for *colds*." The Queen's physician, Sir. James Clark, in alluding to the liability to mistakes of this character, remarked: "We have known more than one example of extensive tubercular disease of the lungs discovered on a post-mortem examination, when during life the disease was looked for in the bowels."

These facts should be known, that they may prevent the members of the profession from falling into the error of overlooking the disease of most importance, and of mistaking derangement of the stomach and bowels for the chief and primary affection, when they are secondary, both in *recurrence* and *in consequence*.

Of Tubercle and Cavities in the Lungs.—All the changes which take place in the Lungs are directly produced by the presence in them of a foreign substance, to which the name of *tubercle* has been given. This matter is a secretion from the blood, in which it is formed, under the operation of certain influences not well understood. Each writer on the subject presents his own views in relation thereto, or signifies his adherence to the opinion of some other writer who has preceded him. Although I have the highest appreciation of many who have enriched this subject with their experience and research, still I cannot, in fairness to my own judgment and observation, admit the correctness of some of these views. In my opinion, there is a little truth in each, mixed up with much error.

Tubercle, as first seen, exists in small specks or points, called *miliary tubercles* or *granulations*. These are of a greyish, half transparent substance, becoming gradually opaque, and of a dull yellow color. This matter is secreted, as I before observed, from the blood. It is poured out into the air-cells, and

also into the smaller branches of the bronchial tubes, which become thereby filled up and solid. When this matter occupies one third or one half of the lung, the amount of air received at each inspiration will be diminished in the same proportion. This produces "*shortness of breath*;" at first, not very manifest, perhaps, but felt on quickly going up stairs, or a hill. Here, you see this condition represented.



The *Miliary Tubercle* increases in size by the addition of fresh particles thrown off, from time to time, from the blood, and also undergoes a further change, by which the greyish, half transparent matter becomes opaque and of a yellow color, when they may be broken down between the fingers like a piece of cheese. This change still further obstructs the freedom of respiration, and renders that portion of the lung in which this matter is deposited quite solid, so that when the outside of the chest is struck gently by the ends of the

fingers, it gives out a *flat, dull sound*, instead of a clear and distinct one. The matter is now called *Crude Tubercle*, and denotes the *second stage* of Consumption. In the following cut, you see a representation of this condition. The tubercles are much longer than in the first stage, and the structure of the lung more dense and solidified.



The tubercular matter may now remain for weeks, months, and even years, in this *crude* state, awaiting a sufficiently exciting cause to carry it on to the next stage. Sooner or later, scrofulous inflammation is produced by the irritation of the tubercles in tissues surrounding them, when the whole softens, breaks down, and forms an ulcerous *excavation, cavity, or space*, in the substance of the lung, from which the matter finds its way into the air tubes, and is coughed up and expectorated.

The following cuts will illustrate these cavities. In the first, we have a portion of the lung, in which three cavities only exist; in the second, you see the lung perfectly riddled.



This is what is called "*ulceration of the lungs*," and constitutes the *third stage of consumption*. Sometimes, a considerable blood-vessel is laid open by the ulceration, and then we have profuse and fatal hemorrhage. After the excavation of a cavity, a considerable improvement takes place in the condition of the patient; such amendments, however, are temporary, and are speedily followed by a further softening of tubercular matter, and the formation of new cavities. Under the combined influences of the discharge from the lungs, diarrhœa, hectic fever, and night sweats, the patient wastes to a skeleton, and gradually sinks.

Poetry has described Consumption as a disease of little suffering—one, in which the victim fades slowly away, without pain of body, and in the enjoyment of a tranquil mind, diffusing around her, like the withering flower, an atmosphere of ineffable sweetness. But, alas! poetry is not true to nature here. The miserable sensations produced by the chills during the day, and the death-like chills which follow copious perspirations in the night, the harassing cough and difficult expectoration, the torturing pains in the chest, the ever present sense of im-

pending suffocation, the exhaustion attendant on diarrhœa, the disappointed hopes, and the melancholy conviction of the hopelessness of their disease which is ever ringing in the ears of the afflicted the knell of their doom, make up an amount of bodily and mental agony which is certainly not surpassed by any other disease in the sad catalogue to which our flesh is heir.

Of the Causes of Tubercle.—The changes which take place in the lungs are, as I have said, produced by the presence in them of a matter to which the name tubercle has been given, and which matter I have also observed is secreted from the blood.

Now, if tubercle is the cause of Consumption, what is the cause of tubercle? Why is this substance formed in the blood? These are questions that have been frequently asked, but never, I believe, as yet satisfactorily answered. Yet, this is the very fountain of the evil. Until correct views are entertained on this subject, whatever success may attend the treatment of Consumption in individual cases, we cannot hope to diminish its prevalence.

In my opinion, there is but one great cause of *tubercle*, and that cause is a deficient supply of pure air to the lungs. This deficient supply may be caused by the most dissimilar influences. Persons employed in sedentary occupations, and those compelled to keep the chest bent forward, restraining its movements—tailors, shoemakers, and clerks—are *all* particularly obnoxious to consumption.

These and similar occupations not only confine the chest, but they also expose the system to other injurious influences, to the want of bodily exercise, and to the noxious effects of *impure air*. *Exercise* is necessary to assimilation of nutriment, and without it there can be no vigorous health. *Impure air alone will bring on consumption in the soundest constitution!* The *oxygen* of the air we breathe regulates our appetite, and, to the weight of a grain, the nutriment that is built up in the system. The chyle undergoes its last vital change in the lungs, and that change depends on the perfect performance of respiration, and on a sufficient supply of pure air. When respiration

is obstructed by disease, the appetite fails, and the body wastes away. When the air breathed is impure, the same thing takes place; the face becomes thin and pale, the features sharp, the respiration hurried, and the appetite poor. Persons so afflicted, all die of consumption. No constitution is proof against this influence. The strong man, who has inherited a full development of the chest, may possibly bear up under it for a longer time than the feeble scion of a consumptive family; but he, too, will fall in the end, from the same disease, characterized by the same stages and symptoms, and arising from the same cause. To those hereditarily predisposed I would say: Do not despair because your parents, or brothers, or sisters, or other kindred, on either side, have fallen a prey to Consumption. If your frame is delicate, and your chest small, seek the open air and regular exercise. Observe what nature requires; be faithful to her demands, and you may live to bury half the strong men of your acquaintance. That impure air is the great cause of Consumption is further proved by the fact, that this disease occurs also in the brute creation, when placed under the same circumstances as the human. "I believe," says Sir James Clark, "that Consumption may be induced in any class of animals, by those circumstances which produce it in man." Mr. Owens, the assistant curator of the Museum of the Royal College of Physicians, London, found tubercles and cavities in the lungs of most of the animals that died in the gardens of the Zoological Society. The morbid appearances presented on examination, were precisely similar to those occurring in man. Regnaud, of Paris, examined the lungs of monkeys, and found tubercles in every stage—cavities, and in several, even ulceration of the larynx and epiglottis. Cows, when confined within the walls of a dairy, and caged animals, all die of Consumption.

If, then, this so called *hereditary* malady occurs in animals without inherited predisposition, when placed under certain injurious influences, such influences must be regarded as the *cause* of the disease. Animals neither in their proper state of nature, nor after being domesticated, when allowed to roam at large, ever have consumption! It cannot, therefore, have

been "*inherited*" (!) in the instances already mentioned. The same influences, it is admitted by all pathologists, will produce the disease in the human species. Why, then, is it regarded as hereditary in man? There is not one instance on record, in which it has occurred in the adult, where a deficient supply of air was *not* present in some form, and to which it might not, with justice, be ascribed! In some persons, the deposit of tubercle follows a "*seated cold*," or bronchitis, the immediate effect of which, on the lungs, is to diminish the size of the air tubes, and in the same proportion, the quantity of air that can be drawn in at each inspiration. In others, it is caused by the *inhalation* of particles of matter suspended in the air. "Stone cutters," "brass and steel polishers," "needle pointers," "knife grinders," "operatives in cotton and woollen factories," "painters and gilders," "burr-stone manufacturers," are *all particularly prone to Consumption from this cause*. Many persons have small lungs, and require to be constantly in the open air; yet, they select some indoor occupation, which keeps them without exercise, in a deteriorated atmosphere. Such persons as these fall victims through their own folly. Not a few engender the disease in the confinement of the *school-room*. "I had, under my own eyes," says Laennec, "during a period of ten years, a striking example of the effect of the *depressing passions*, in producing phthisis; in the case of a religious association of women, of recent foundation, and which never obtained from the ecclesiastical authorities any other than a provisional toleration, on account of the extreme severity of its rules. The diet of these persons was certainly very austere, yet it was by no means beyond what nature could bear. But the ascetic spirit which regulated their minds, was such as to give rise to consequences no less serious than surprising. Not only was the attention of these women habitually fixed on the most terrible truths of religion, but it was the constant practice to try them by every kind of contrariety and opposition, in order to bring them, as soon as possible, to an active renouncement of their own proper will. The consequences of this discipline were the same in all; after being one or two months in the establishment, the catamenia

became suppressed; and in the course of one or two months thereafter, phthisis declared itself. As no vow was taken in this society, I endeavored to prevail upon the patients to leave the house as soon as the consumptive symptoms began to appear; and almost all those who followed my advice were *cured, although some of them exhibited well marked indications of the disease!* During the ten years that I was physician to this association, I witnessed its entire renovation two or three different times, owing to the successive loss of all its members, with the exception of a small number, consisting chiefly of the superior, the gate-keeper, and the sisters who had charge of the garden, kitchen, and infirmary. It will be observed that these individuals were those who had the most constant distraction from their religious tasks, and that they also went pretty often into the city, on business connected with the establishment."

Now, we think that no argument could possibly be stronger than the foregoing, in proof of the influence of *impure air*; although the hypothesis of Laennec is, that *depression of spirits* was the sole or main cause of the malady. His very exceptions tend to illustrate our position. Who, exclusive of the superior of this religious association with which Laennec was connected for so long a time, escaped death? Simply the "gate-keeper," the "sisters who had charge of the kitchen, the garden, and the infirmary," all of whom occasionally *inhaled the pure air of heaven in going to and returning from the neighboring city!* Some persons might say that it was *not* depression of spirits that led to the illness of the other members of the establishment, but the want of proper nourishment. But this will be found as fallacious as the other argument, for Laennec's own statement leaves us to presume that no difference was permitted in dietary. It was those who devoted themselves to seclusion who all fell victims, while those who went frequently into the open air escaped entirely; considering, therefore, these particulars, the only influence at work to cause injury on the one hand, and the preservation of health on the other, was the *pure air and exercise* which some of the members enjoyed. Such as left the society, Laennec tells us, recovered their health, through the instrumentality of *air* and

exercise. Pure air was all they required; *deprived of that, they became ill, and would have died of Consumption; under its influence they returned again to health.*

The difference between recovery and death was measured by the purity of the air. This constituted the only distinction in the habits of those who escaped Consumption and those who fell victims to it. It would be absurd to attribute the occurrence of the disease, under these circumstances, to *hereditary predisposition.* All, surely, were not *predisposed*, and yet Lacunee tells us, that he "witnessed the entire renovation of the establishment several times during the period of ten years, owing to the successive loss of *all* its members."

Now, in further illustration of our position, let us consider for a moment the function of the lungs. Their office, in the economy of life, is to remove carbon from the blood. This is accomplished by breathing an atmosphere composed of four parts of *nitrogen* and one of *oxygen.* The *blood* is sent to the lungs by the heart, and distributed over one hundred and fifty millions of *air cells*, in minute vessels, which form a perfect network over the inner surface of each cell. The *air* is drawn into the lungs, and distends these air cells. The blood and air are separated from each other by a membrane so extremely delicate in texture, that it allows the *oxygen* of the air and the *carbon* of the blood to pass freely through it at every respiration. Now this union of the oxygen and the carbon is a chemical union, and can only take place in relative proportions. In health, about *thirteen ounces* of carbon are thrown out daily, to unite with which *thirty-seven ounces* of oxygen gas are required. So long as the oxygen supplied is in proportion to the carbon, our blood is rich, pure, and nourishing. Neither scrofula nor consumption can possibly be developed under such a condition of the system.

Now, consider the immediate effects produced by diminishing the supply of pure air. The blood becomes loaded with carbon, a principle destructive to human life, and one that can only be removed by the function of respiration. The presence of this poison in the blood, and its circulation for any considerable length of time through the system, *induces that*

peculiar condition which authors describe under the name of serofulous or tuberculous cachexia, and of which the deposition of tubercle, first in the lungs, and subsequently in other parts of the body, is an almost invariable consequence. "Personal experience," says M. Baudeloeque, "reading, reflection, and a great number of facts, have impressed me with the deep conviction, that there exists one principal cause of serofulous disease—a cause which predominates over all others, and without which the disease would perhaps never develop itself. This cause consists in a particular condition of the atmosphere in which the individual resides. However ill chosen or unsubstantial his food may be, however much cleanliness may be neglected, whatever be the nature of his clothing or its adaptation to the temperature, whatever the climate in which he lives, the exercise he takes, or the duration of his sleep and waking, if the house in which he dwells be placed in a situation to which the fresh air and the sun's rays have free and direct access, and the house itself be sufficiently airy, light, and well proportioned to the number of its inhabitants, *serofulous disease will never make its appearance.*"

Now, what is serofula? It is one of the effects of a deficient supply of pure air; it is the vitiated condition of the entire body, described by writers under the name of "*tubercular cachexia.*" "I entertain," says Flood, in his Treatise on Consumption, "no manner of doubt, that it is to serofula, and serofula alone, that every cause of true consumption is to be attributed." "There are but few physicians," says Professor Carswell, "who will hesitate to give their assent to the fact, that serofulous swellings are curable, even without ulceration or suppuration having taken place in them. Such cases, I am aware, are regarded by some as simple chronic inflammatory swellings of the lymphatic glands; but this opinion, I believe to be by no means correct; for among the greater number of cases which I have examined, I have never found these glands, when generally affected, exempt from the presence of *tuberculous matter*; and even when the cutis is pale (if they be situated beneath this tissue), we have sometimes found them filled with this morbid product. When, therefore, enlarged glands in a

scrofulous patient ultimately disappear, we may with almost certainty conclude that we have witnessed the cure of a *tuberculous disease*." What more can I require to make tenable my position? In a court of law such testimony would be considered overwhelming evidence, and since I am to be judged not by a *packed* and *prejudiced* jury of twelve, but by the common sense of the entire *public* and *profession*, I beg leave here to submit my "*cause*" for their decision.

Complications of Consumption.—Though the destroying influence of the disease is confined to the Lungs, its effects are seen throughout the system. The injurious impression made upon the lungs impedes the full and proper performance of their function. The function of the lungs is to remove from the blood a poisonous excess of *carbon*. On the blood, the entire system depends for its vitality. The immediate effect produced by tubercular deposition in the lungs, is to obstruct the free admission of air to the air-cells, and thus to render the blood in a corresponding degree impure. The circulation of this impure blood produces a disturbance, and a weakened vitality throughout the entire system.

This disturbance we call "*sympathy*." But it is something more than that nervous connexion existing between the organs of the body to which the term "*sympathy*" is frequently applied. It is a sympathy produced by *impure blood*. The failure, on the part of the lungs, to perform their function, *links* the several parts of the body together in the disastrous consequences which must result therefrom. The injury begins in the lungs, whence it is transmitted from organ to organ until the local malady becomes lost in the wide range of complications to which it has given rise. These complications are always distressing to the patient, and are often so prominent and severe as to be mistaken for the principal disease. Death alone discloses the error to the astonished physician, by presenting the lungs in a state of disorganization. In one instance, the *diarrhœa* is so violent, and assumes so much the character of "*chronic dysentery*," as to engross the whole attention. In another, the chief symptom consists in "*disorder of the stomach*," and is marked by loss of appetite, pain, and

vomiting; or there may be in *latent consumption*, obstinate "*dyspepsia*," in which case it is the commonest thing in the world for the patient to be dosed to death with "*bitters* to improve digestion."

In a third, the complaint is "ulceration of the epiglottis," when the disease is thought to be "*all in the throat*." In a fourth, it is "*ulceration of the larynx*," with loss of voice. In a fifth, the pleura becomes inflamed and adherent to the ribs, when it is called "*chronic pleurisy*." The pleurisy may not be discovered until water has formed in the chest, which follows as a consequence; and then it is called "*dropsy in the chest*." Sometimes a hole ulcerates through the covering of the lungs, allowing the air to pass through into the cavity of the chest, producing a condition known as "*pneumo-thorax*" or "*air in the chest*." All these, and many other secondary diseases, become engrafted on the original malady in the lungs, disguising its true character, and leading to the most deplorable and fatal errors in practice. Space will not permit me to extend my observations on this head, but I feel that I cannot leave it without warning the reader to be ever watchful of the chest, and not to be misled by hopes based on the opinion of an inexperienced physician. Few medical men are competent to determine the true state of the lungs, in the *early* stages of consumption, and certainly no opinion can have the least value, except it be formed *after* a thorough and careful examination. A false opinion may cost you your life, and where the stake is so high, you are a wise man to take as few risks as possible.

Under the head of "*Complications*," I had intended to enter somewhat at length into the consideration of "*Affections of the Pleura*," "*Water in the Chest*," "*Air and Water in the Chest*," "*Ulceration of the Intestines*," and of "*Irregular and Suspended Menstruation*," as common consequences of this disease; but regret to find that neither my time nor space will permit me to carry out this intention in the present edition.

Of Diagnosis, or the Means by which we distinguish Diseases of the Chest.—Twenty-five years ago, before the introduction of "*Auscultation*," Consumption was often mistaken for

other diseases; and even at the present time, it is a lamentable truth that there are but few cities that can boast half-a-dozen physicians competent to give an opinion in any difficult or intricate case of pulmonary disease. Let any one who doubts this, enter the offices along the most fashionable "*doctors' row*" in this city, and he will get about as many different opinions as there are physicians. In the same case, some will find disease in the *right* lung—others in the *left*; one will locate it in the *upper*, and another in the *lower* part—one in the *front*, another in the *back* of the lung! This is, of course, only in the early stages, when it is very difficult for the unpractised ear to detect the slight variations of sound from health; and yet on such detection may hang the life of the patient! When the disease is far advanced, and the "*matter*" can be heard *gurgling* at every breath, the case is of course different; but then, under such circumstances, the merest tyro could not mistake the seat of mischief. It is very common for patients to say, when requested to bare the chest for an examination, "*Why, Dr. Foggy sounded me without taking off any thing. You know Dr. Foggy, he is a man of great experience, and has the largest practice in the city.*" Only imagine the accuracy of an examination made through a *vest*, a *starched linen shirt* (that rumples at every inspiration), and a *thick flannel under shirt*. Besides, over the upper and back part of the chest, which is the most common seat of the disease, we have the additional thickness of a *coat*. With such an examination, hundreds are pronounced "*sound*," whose lungs are not only diseased, but who are in *confirmed* stages of consumption!

The means by which disease in the lungs is detected, are four-fold, as follows: *First*, By the *general symptoms*, such as *cough*, *expectoration*, *short breathing*, and so on; but of these we have already spoken sufficiently. *Secondly*, By *PERCUSSION*, which means simply tapping the chest gently with the ends of the fingers, and listening to the sound we thus produce. Every body knows the difference in the sounds given out when different substances are struck. If you strike an empty barrel, you get a *clear, hollow, prolonged sound*; but if you strike a block of wood, the sound is *dull, short, and flat*. Anything that is

filled with air will give out a clear sound. The lungs are light and spongy, and in health are filled with air—hence, the healthy sound of the chest, when struck or percussed, is a clear, hollow sound. The liver is a solid organ, and does not contain air; hence, the *healthy* sound of the liver, when it is struck, is dull and flat. Now, let us see how this can be applied to the detection of disease. We percuss the chest, and find that every part gives out a clear sound. We know, then, that the lungs, in every part, must be filled with air. But suppose one particular part sounds *dull and flat*, we then know, that here, owing to some cause, no air is received, and that there is disease. In one instance, the dulness may be caused by *inflammation*, in another by *tubercles*, in a third by the presence of *water* outside of the lungs altogether. But by considering the general symptoms of the case, we can generally discover the cause without much difficulty.

This is a very simple and a very common sense kind of test of the lungs, and yet, strange to say, it was not discovered until 1761, when Avenbrugger, a German physician, published a pamphlet on this subject, recommending it to the profession. He, however, died, without having derived either honor or advantage from a discovery which should have insured him the highest distinction. More than thirty years after the appearance of Avenbrugger's pamphlet, Corvisart, an eminent French physician, had the honor of rescuing this method from the obscurity and neglect into which it had fallen, and in our own day, it is regarded as one of the most valuable of medical discoveries.

The usual manner of percussing the chest, is to place the index finger of the left hand firmly against the part to be "sounded," and then to strike the finger several smart blows with the ends of the fingers of the right hand. I prefer, however, to the finger, a little instrument made of ivory, and covered with india-rubber. It adapts itself equally well to the walls of the chest, and is much more convenient, especially in sounding the right lung. The ivory is necessary to give firmness, and the india-rubber to prevent the clucking sound produced when dense bodies are struck.

The general adoption of percussion in practice is of much later date than that favorable notice given of it by Corvisart. It is only since the publication of a treatise on the subject by M. Piory, in 1828, that it can be considered as established. Medical discoveries generally have to wait for about two generations of *doctors* to die off, before science can surmount the barrier of prejudice. The improvement of M. Piory consisted in the suggestion of a little plate of ivory, to be placed against the part to be examined, and the percussion to be made upon it. This he named a "*pleximeter*" or *stroke measurer*. The ivory gives a clicking sound when struck, as before mentioned, to remedy which I have added the covering of india-rubber.

Now, though *percussion* is very important in itself, it is not always a sure and an unerring guide. There are several conditions of the lungs, in which, were we to trust to this alone, we should frequently be led into error.

Auscultation is the third principal means of detecting disease in the chest. It consists in listening for the sound, by applying the ear against the chest, or by means of a kind of ear trumpet called a "*stethoscope*." You will recollect, I said that the sound given out, when the chest is struck in health, is a *clear* sound. Thus, when we apply the ear or the stethoscope to the chest, if the lungs are healthy we hear the air *enter*, as it swells, and *pass out* again, as it contracts. The sound produced is peculiar, and the ear becomes so accustomed to it, that any variation is as readily detected as a pianist can detect those notes of a piano that may be out of tune. The sound of healthy breathing is a murmuring kind of sound, produced by the inflation of the air vesicles, and hence called the "*vesicular murmur*." The air makes more noise in entering than it does in passing out. Hence, when the expiration is most distinct and prolonged, it indicates disease. Naturally the respiration of the child is more *noisy* than that of the adult. When we find the respiration of a grown person very *loud*, we say, he or she has "*puerile respiration*," and this, too, indicates disease. On listening over the windpipe, and over the larger branches of the bronchial tubes, we hear a sound as of air rushing through a tube—

a kind of *blowing* sound—this we call “*bronchial breathing*.” Now, on examining the lungs, to determine their health or disease, we listen, first, for the natural *murmur* or *vesicular breathing*. If we find it wanting in any one part, we know that no air enters that part. The cause of this may be the filling up of the lung with *tubercles*, or it may arise from one of the bronchial tubes becoming blocked up, thereby neither allowing the air to pass *in* nor *out*. How do we determine which of these is the cause in any particular case? By calling to our aid percussion. We tap lightly on the part, and if there be imprisoned air from the closing up of a bronchial tube, it gives out a *hollow sound*. If the sound is *dull* and *flat*, we know that the lung itself must be solid, or that there is some solid body, as water, between it and the walls of the chest. To determine whether the dullness arises from water in the cavity of the pleura, or from tubercles in the lungs, we direct the patient to lie on the opposite side, having the one we wish to examine uppermost, when, if it be water, it will pass over to the sound side, and the dull part will again sound *clear*. If this dullness still continues, in whatever posture the patient be placed, we know that it can only arise from the lung being made solid, from tubercles or *inflammation*, and if there be no inflammation, then we are sure that here the lung is stuffed with *tubercles*.

When we listen to the *voice*, with the stethoscope placed over the *windpipe*, it seems to come “*directly to the ear*,” as though the words were pronounced in the ear; but when the instrument is applied to the lower part of the lung, or below the collar bone, or to the axilla, the sound becomes scattered and indistinct. Should there be a cavity in these parts we again hear the voice come directly into the ear. This sound is called “*pectoriloquy*,” and indicates the existence of a cavity. There are many other sounds which the physician must know, to be able to distinguish disease; but I have said enough on this head to let you know what is meant by *auscultation*.

Pulmometry is another, and by no means a less important means of determining the amount of healthy lung remaining. It consists in a contrivance for measuring the *capacity* of the

lungs for air. This was first proposed, I believe, by Mr. Abernethy, the late eminent surgeon. As employed by him, it consists in a large glass jar, which is filled with water, and inverted in a basin. A bent tube is so contrived that it passes below the edge of the jar, and comes up on its inside to the top. On blowing through this tube, the patient is able to displace an amount of water equal to the volume of air in his lungs. In health this quantity is found to vary from *six to eight quarts*; while in disease of the lungs it will often not amount to more than *two or three quarts*.

The instrument employed by myself is somewhat different, though the principle—that of measuring the capacity of the lungs for air—is precisely the same. To the top of a bell glass receiver, capable of holding two-and-a-half gallons of water, I have an elastic tube attached, which communicates by a stop-cock and connexion with the interior of the instrument. The jar is inverted over a pneumatic trough, and is graduated on three sides—*first*, from below, upwards, to measure the cubic inches of air removed from the jar at one *inspiration*, by the rise of the fluid within; *secondly*, from above, downwards, to determine the cubic inches of air that are thrown into it at a single *expiration*, by the number of degrees the water falls. The third scale I am only now having added. It is intended to give the *average* healthy capacity of the lungs in persons of different heights—male and female. With this addition, I conceive it will be a most accurate and valuable guide with regard to capacity, and infinitely superior to anything of the kind in use.

OF THE

TREATMENT OF CONSUMPTION.

WE now come to the consideration of the means of treatment, which, from time to time, have been recommended for the cure of Consumption. In this terrible disease, which should, from its very nature, and the mystery that has been allowed to accumulate around it, invite the closest scrutiny and care of the physician, a course of treatment has been pursued by medical men, as I conceive, at total variance with the dictates of *reason, experience*, and the best established *principles* of the healing art. For a disease having its locale in the lungs, medicines have been prescribed in such a manner, that they expend their action almost wholly on the *stomach* and *general system*, without in any other than a very secondary and subordinate degree, influencing the destructive changes going on within the lungs. Nor is this *misapplication* the sole error that is committed. Instead of fixed ideas on the object, there is a rivalry in the presumed conditions of the system, and of the remedies most appropriate for their removal. One physician pronounces consumption a disease of "*depression*," and orders *stimulants*. Another, on the contrary, declares that it is *inflammatory* in its character: and lo and behold! prescribes medicines to lower both the bodily and mental tone.

There are no established principles of treatment. Physicians of equal reputation and equal experience recommend, at one and the same period of the disease, medicines of the most opposite qualities; and each persists in a daily *routine*, the injudiciousness of which is *condemned by a thousand deaths, and unsupported by a single cure!*

If universal failure will prove the falsity of any remedial means, then, indeed, the falsity of the treatment of Consumption, by remedies administered through the stomach, has been as clearly and incontrovertibly demonstrated as any error possibly can be.

It is a melancholy reflection, that a class of diseases, from which near one third of our race fall victims, which are prevalent in every country and climate, and from which neither age, nor sex, nor condition of life enjoys an immunity, should be less understood, and worse treated, than any other to which humanity is subject.

The most learned and experienced physicians, while admitting the *curability* of Consumption, have accomplished no more than a temporary *palliation*! The ignorant and inexperienced, while they side with the erroneous popular conclusion, that the disease is *incurable*, yet tender their advice and assistance to patients! Why? let it be asked. The motive is two-fold. Disregarding all considerations of humanity, they desire the profits of attendance, and, at the same time, to bury in the graves of their patients, all reflections on their own want of skill. They pursue the heedless and disreputable course of deceiving their patients to the very brink of the grave, to which their own injudicious ministrations are hurrying them; designating as a "*mere cold*," or a "*slight attack of bronchitis*," symptoms which, if not wholly ignorant, they must know can only spring from the inception of a disease which, despite any means they are employing, must soon hurry their victims to an untimely grave. Lecch-like, they cling to their patients, until the latter, under the influence of the "*hope deferred that maketh the heart sick*," verge towards entire despondency; when the advice to "*visit the country*," to "*take a sea-voyage*," or to "*go to a warm climate for a season*," is the stereotyped soother of all complaints that may have escaped the lips. "*You will be better in the ensuing Spring*," is also a prepared comfort of these "*kind-hearted*" physicians. But, alas! for those whom they delude thus far. The "*country*" referred to, is that which lies beyond the grave: and the "*spring*," the season that cometh not until "*life's fitful fever is over*."

The view that Consumption is essentially incurable has certainly been well sustained by its universal fatality under the treatment usually employed; and I must confess, that, had we no resource save "*cod liver oil*," "*counter-irritation*," "*cough mixtures*," and "*change of climate*;" and if the same principles were to govern our treatment, that have hitherto directed to such disastrous results, I, too, should have little hope. But we have other resources than these, and other principles more consonant with nature, under the benign influence of which fresh oil is poured into the waning lamp of life, and hope revives again in the drooping heart.

Before proceeding to point out those means on which I chiefly rely, in the treatment of Pulmonary Consumption, I will first make a few remarks on the *possibility* of restoring to health lungs that have become not only involved in tubercular disease, but in which that disease has proceeded to the stage of *ulceration* and the formation of *cavities*.

In medicine, as in law, there are certain *principles* which are *established* and cannot be *controverted* by the discoveries of all time to come. These principles are based upon *facts* that were observed and recorded a thousand times before they became thoroughly established and universally admitted by those acquainted with them. Among such facts, I place the *cure of consumption*, and appeal to the recorded observations of Bayle, Lacnec, Louis, and Andral, in France; and to those of Reid, Murray, Mills, Seudamore, Coregan, Flood, Forbes, Hastings, Watson, Clark, and Carswell, in England; and of Parrish, Morton, Gerhard, and Swett, in America.

I feel that it would, indeed, be thought presumption in me to attack a conviction in the public mind, so deeply seated and inveterate, as that which regards Consumption as essentially incurable, by simply expressing my own ideas, and by narrating facts that have fallen only under my own observation. To combat any error successfully, it requires confirmatory testimony, that cannot possibly be open to the censure of interest. I shall, therefore, quote freely from the writings of those authors who have contributed the best energies of their minds to the study and investigation of this special class of diseases.

Laennec, one of the earliest writers who enters very fully into the curability of Consumption, found, on examining the lungs of many persons who had died of other diseases, appearances such as would result from the healing of ulcers or burns, on the surface of the body. He remarks:—"After I was convinced of the possibility of cure in the case of ulceration of the lungs, I examined these remains more closely, and came to the conclusion, that in every case they might be considered as *cicatriccs*." After detailing, at considerable length, the peculiarity of these appearances, he observes:—"This fact seems, to me, to leave no doubt of the nature of these productions, and of the *possibility of the healing of ulcers in the lungs*. The foregoing observations, I think, prove that tubercles in the lungs are not a necessary and inevitable cause of death, and that *cure* may take place in two different ways *after the formation of an ulcerous excavation*; first, by the cavity becoming *lined by a membrane*; and, secondly, by the obliteration or closing up of the cavity by means of a *cicatrix*.

"These considerations ought to induce us to entertain hope in those cases of Consumption wherein we have reason to believe the greater portion of the lungs still admit the air. Although we are certain that a person has an ulcerated cavity in the lungs, we are not equally certain that this will prove fatal. We may even be justified in believing that a case wherein all the ordinary symptoms of consumption exist, including the indications of a cavity, is more favorable, providing the greater portion of the lungs is in other respects healthy, than one in which tubercle exists to any considerable extent, without the presence of a cavity."

In continuation of his argument on the curability of Consumption, after regretting that it was not in his power to lay before his readers a particular account of the early history of the cases in which these evidences of cure were observed, he presents the following:—

"An English gentleman, aged thirty-six, resident in Paris, had an attack of spitting of blood, followed by a cough, at first dry, but in the course of a few weeks, accompanied by expectoration.

"To these symptoms were added well marked hectic fever, considerable shortness of breath, copious night sweats, emaciation, and debility. The spitting of blood returned, in a slight degree, now and then; and in December he had diarrhoea, which was with difficulty checked by astringents. In the beginning of January he was so much reduced, that both M. Halle and Bayle agreed with me in opinion, that his death might be daily looked for. On the 15th of January, during a severe fit of coughing, and after bringing up some blood, he expectorated a solid mass, the size of a filbert, which, on examination, I found to be evidently a tubercle in the second stage, surrounded apparently by a portion of the pulmonary tissue. This patient remained in the same degree of extreme emaciation and debility during all January, being expected to die daily; but in the beginning of February, the perspirations and diarrhoea ceased, the expectoration sensibly diminished, and the pulse, which had been constantly as high as one hundred and twenty, fell to ninety. The appetite returned, the patient began to move about in his room, his emaciation became less, and against the end of the month his convalescence was evident. In the beginning of April he was perfectly recovered, and his health has continued good ever since, without even the least cough, and without his being particularly guarded in his climate or regimen."

"The second case is that of a gentleman, who, after having experienced all the symptoms of Consumption in the greatest degree, perfectly recovered. His respiration is now quite perfect through the whole chest, except at the top of the right lung, in which point it is totally wanting. On this account I am certain that this portion of the lung had been the seat of an ulcerous excavation, and that this has been replaced by a complete and solid cicatrix. The health of this gentleman continues good, although he has often occasion to speak in public. He has sometimes a little dry cough on the change of the weather, but takes cold very seldom. In conclusion, I think that the *cure of Consumption*, where the lungs are not *completely* disorganized, ought not to be looked upon as at all impossible, in reference either to the nature of the disease, or of

the organ affected. The pulmonary tubercles differ in no respect from those found in *scrofulous glands*, and we know that the softening of these latter is frequently followed by a perfect cure. On the other hand, the destruction of a part of the substance of the lungs, is by no means necessarily mortal, since we know that even wounds of these organs are frequently cured, notwithstanding the unfavorable conditions with which they are necessarily complicated by the perforation of the walls of the chest, and the admission of air into the pleura."

The author goes on to observe: "As soon as the hectic fever is established, wasting of the body becomes manifest, and makes more rapid progress, according as the perspiration, the expectoration, and the diarrhœa are more abundant. In women, and in persons of a lymphatic habit, the skin becomes white, or bluish pale, with a very slight shade of lemon yellow. The emaciation then makes rapid progress towards complete marasmus, and presents to us the picture traced with such frightful truth by Aretæus. The nose becomes sharp and drawn; the cheeks are prominent and red, and appear redder by contrast with the surrounding paleness; the conjunctiva of the eyes is of a shining white, or with a shade of pearl blue; the cheeks are hollow; the lips are retracted, and seem moulded into a bitter smile; the neck is oblique, and impeded in its movements; the shoulder blades are projected and winged; the ribs become prominent, and the intercostal spaces sink in, particularly in the upper and fore parts of the chest.

"But neither this degree of emaciation, nor the symptoms just enumerated, are proofs of an incurable disease. I have already noticed instances of cure, after the patients had been reduced to the most extreme degree of emaciation!"

The following testimony is borne by Dr. Forbes, Fellow of the Royal Society of England, and one of the principal editors of the *British and Foreign Medical Review*: "For as many as eight or ten examples of cicatrization of the lungs after tubercles," says Dr. F., "I refer the reader to M. Andral's *Clinical Medicine*, book iii. page 382. These cases are more extraordinary than those given by M. Laennec, and together with

them put the fact of the healing of tuberculous excavations beyond all question."

Dr. William Stokes, of the Meath Hospital, Ireland, a writer of celebrity on diseases of the chest, has some very apposite observations on this subject. He says: "We may consider this treatment (of Consumption) under two heads, viz. the *curative* and the *palliative*: the first, the attempt to eradicate the disease by active treatment; the second, the relieving the various distressing symptoms of a hopeless consumption. And, however differing in detail, the principles of both methods are the same, namely, the removal of irritation from the lung, and the improvement of the general health. There can be no doubt that, as medicine advances, the *cures* of consumption will be much more frequent; its nature will be better understood, its first stages be more commonly discovered, and the disease be prevented from proceeding to incurable disorganization. Consumption may be separated into two classes—constitutional and accidental. In the first, tubercle supervenes, in persons strongly predisposed to it by hereditary predisposition or original conformation. In these the disease is generally rapid, invades both lungs, and is complicated with lesions of other systems.

"In the second, we meet the disease in persons not of the strumous diathesis, and who have no hereditary predisposition for tubercle. The disease results from a distinct local pulmonary irritation, advances slowly, and the digestive and other systems show a great immunity from disease.

"*In both cases we may effect a cure*; but this result will be more often obtained in the latter than in the former class."

Dr. Carswell, the eminent Professor of Pathological Anatomy in the London University, demonstrates in the most conclusive manner, not only the curability of Consumption, but also the frequent occurrence of cure. He observes: "The cure of a disease is indicated, first, by the cessation of those symptoms which are peculiar to it, or the restoration of those modifications of function to which its existence gives rise. Secondly, by the disappearance of the local cause of the disease, or by the

presence of certain lesions which are known to follow, as the consequence of such cause, and of no other. Such indications of the cure of tubercular disease have been observed, even in those organs, the lungs, in which this disease was long considered, and still is, by most medical men, to prove inevitably fatal, even without ulceration or suppuration having taken place in them. The important fact of the curability of this disease has, in our opinion, been satisfactorily established by Laennec. All the physical signs of tubercular phthisis have been present, even those which indicate the presence of a cicatrix in that portion of the lung in which the excavation had formerly existed."

Having entered very fully into the description of the appearances in the lungs after the *cure* has taken place, he proceeds to speak of the *extent* to which the lung had been involved in the disease, in the instances that had fallen under his observation. "In some," he informs us, "the indications of disease were confined to a circumscribed portion of the upper lobe of the lung;" in others occupied "one half or two thirds" of a lobe. In many cases, the "whole upper lobe of one lung, and sometimes of both lungs, presented these appearances."

"There must be few practical pathologists," he continues, "who will not consider these anatomical facts as evidence that *tubercular consumption is a curable disease!* No objection has been brought forward, calculated in the slightest degree to invalidate the conclusion to which I have been led by the repeated observation of the changes we have described, viz.: That these changes are positive proofs of the removal of the *material* element of the disease, and also of the cure of these lesions of structure to which it gives rise, even at an advanced period of its progress. We feel all the importance that would deservedly be attached to an accurate statement of the conditions under which the cure of tubercular phthisis was effected; on this point our information is vague and indefinite, but we cannot, however, avoid repeating the fact, that *pathological anatomy has, perhaps, never afforded such conclusive evidence in proof of the curability of a disease, as it has of that of tubercular consumption.*"

Dr. Gerhard, of Philadelphia, in his work on Diseases of the

Chest, not only affirms the curability of Consumption, but points out the different appearances which are presented in the lungs when recovery has taken place. After treating the subject in general terms, he observes: "We have, however, more direct proofs of the curability of Consumption. That evidence is derived from pathological examination, and of this there is no more striking illustration than the case of an eminent physician of this city, the late Dr. Parrish. It is well known that he regarded himself as laboring under Pulmonary Consumption at an early period of life. He recovered vigorous health, lived to the age of sixty, and finally died of disease of the kidneys." In this case, we are informed, there was every symptom and evidence of Consumption, and of its complete and radical cure. The Doctor not only survived his disease, but regained vigorous health, though tubercle had been deposited in his lungs, and had proceeded to ulceration and the formation of cavities.

The conclusion to which Dr. Gerhard has come, from the facts which have fallen under his observation, is that "*Consumption is strictly a curable disease.*"

Dr. Swett, of this city, one of the physicians of the New York City Hospital, and Professor in the Chair of Medicine in the University Medical College, has, during the past year, published a "*Treatise on Diseases of the Chest*," in which he considers the curability of Consumption, and gives his opinion unhesitatingly in the affirmative. He asks the question, "Is Consumption a curable disease? The general impression in the medical profession, 'to its disgrace be it spoken,' is, that a patient with phthisis is doomed to death. If those cases only are considered in which the disease is so far advanced in its progress that it is easily distinguished, this opinion, on the whole, is well founded; yet, even under these circumstances, unexpected recoveries take place. I shall never despair of the life of a patient with phthisis (Consumption) when I recollect what I once witnessed in this Hospital."

He then proceeds to detail the particulars of a case which presented all the symptoms of Consumption in its most advanced stage. So marked were the indications of a large cavity in the right lung, that he was accustomed to speak of the case as being

one of an undoubted character. "On one occasion," he continues, "I found the patient, who had been gradually sinking, in such a state of extreme exhaustion that it seemed to me improper to disturb him. He was bolstered up in bed, with his head resting on his shoulder, breathing with great difficulty, bathed in perspiration, and with a feeble and rapid pulse. He looked like a dying man. The next day my attendance ceased." On the Doctor's return, at the end of two months, he found this *dying* patient was so far recovered as to be able to walk about; and continued steadily to improve. He then goes on to tell us that "during the past fifteen years he has known many persons who had all the symptoms of Consumption in advanced stages; yet *finally recovered*." And again: "For the past fifteen years I have been in the habit of examining the lungs of all my patients, dying of every form of disease, for traces of phthisis that had been cured. I have been astonished at the number of cases which have presented evidences of this favorable result."

With this weight of testimony in support of the curability of the disease, we look in vain, through the several works from which I have quoted, for one that can point out the means by which that cure can be effected. Most writers give to nature the credit of accomplishing the recovery when it does really occur. But if Consumption be curable by the operations of nature, in even a single instance after it has reached its worst stage, when the lungs are broken down into cavities, it must surely be within the reach of art to aid nature so far as materially to increase the frequency of such recoveries. Every physician who has read deeply the human system, has learned that it is but the province of our art to assist the efforts of nature,—to remove obstruction,—to lighten the burden which oppresses the diseased organ,—to remove those influences which feed the malady, and thus allow the GREAT PHYSICIAN, acting through the agency of those vital and immutable laws which he has implanted in our being, to restore the lost balance, and recall the harmonious action of all the organs of the body.

Having proved that Consumption has been again and again cured, and by evidence of the most positive and indubitable character, established the frequent occurrence of such reco-

veries, we feel that this vexed matter should be considered as placed for ever at rest. It may be excusable for those who have not had much experience in the chamber of sickness, and even for creditable old matrons who have spent their lives in nursing the sick, and yet, throughout that long period, have not known *one* case of recovery, though they have administered the potions prescribed by a score of learned doctors:—it may be excusable, I say, for these to deny the *curability of Consumption*; but for physicians to do so, is without palliation. If they believe it to be *incurable*, then are they ignorant; and for ignorance such as this, where life is at stake, the largest charity has no excuse to offer. If they, on the other hand, believe it *curable*, and yet deny such to be the case, because they know not the means, then are they false to their professional brethren whose treatment has been attended with more success—false to the profession to which they belong (for they deny what it has *proved*)—and false to their patients, whom they deceive, until the disease has reached a stage when deception is no longer possible, and then proclaim its hopeless character, weakening the last hold of their victims on life, and depressing the mind to utter despair.

If you are an invalid, there is a safe rule to guide you in your judgment, and one to which the physician has no right to object. It is this: *You have diseased lungs*, and to attain recovery, are about to seek medical advice. Among the physicians of your acquaintance, there may be some who *do not* believe Consumption can be cured. Flee from such, as you would from certain destruction, from the embodiment of all evil. Had one patient, by their administrations, been rescued from the grave, this unbelief would vanish, and the physician who, during his practice, has not saved one, is an unsafe pilot through the storm on the troubled sea over which the consumptive must pass. On the other hand, those who admit the curability of Consumption, should be able to point to their success—should be able to refer to those whom they have been instrumental in rescuing from the grave, after unequivocal symptoms of this terrible malady had proclaimed themselves.

In the treatment of Consumption, there are three great

channels through which remedies have been administered. These channels are, first, the *stomach*; secondly, the *skin*; and thirdly, by *inhalation through the lungs*.

Of Treatment through the Stomach.—It is scarcely necessary to allude to the various remedies that have been, from time to time, administered through the stomach for the cure of Consumption. Mercury, antimony, taraxacum, lactucarium, sarsaparilla, digitalis, and prussic acid, one after another, have been brought into use, under the sanction of some great name, and after enjoying a short-lived popularity, have sunk again into oblivion. While each of these was popular with the profession, to deny its merits, or to prescribe anything else, was regarded as a proof of ignorance and quackery. But if any man were now to take the same ground, and claim the same virtues, held a few years ago by the most learned physicians, in regard to any of these exploded remedies, he would be unhesitatingly pronounced a "*quack*" or a "*fool*." Within the past few years a *new* remedy has arisen—the "*cod liver oil*." Three years ago the demand for this article was so enormous that, to satisfy it, every variety of vegetable and fish oils was pressed into service, properly scented with "*strong old cod*," and carefully put up in pint bottles, and labelled, "*pure cod liver oil*," below which, there was a paragraph, setting forth the rare and peculiar virtues of this very excellent and orthodox remedy. A few years have passed, and, alas! this, too, like all its predecessors, has lost its reputation, and is fast sinking into entire neglect. The day is not far distant, when it will be regarded as wholly without curative virtue, and when, to prescribe it as a remedy for Consumption, will be considered as a proof of unmitigated stupidity and ignorance.

In regard to these remedies, as false principles directed their administration, whatever their virtues might have been, the result could not have been less than complete failure. They were intended to act on the *lungs*, and yet were applied to the *stomach*! Their action was intended to be local, and yet they were administered in such a manner that they could only act constitutionally, expending their principal and immediate action on the unoffending stomach, while the foul ulcers

within the lungs were left unmolested! There is no principle in medicine better established than this—viz. that all local diseases require a local remedy. This principle is acted on, in regard to ulcers on the surface of the body, whether they arise from a local cause or a vitiated constitution. Who thinks of treating an ulcer on the *leg*, by a dressing applied to the *stomach*? Again, in regard to the mucous membrane, which is the same in the lungs as in the eye, throat, stomach, or bowels. How does the oculist treat chronic inflammations and ulcerations of the eye? By astringent and alleviative washes applied *directly* to the diseased surface. This practice is orthodox, and must ever remain so, because it is successful. Reverse it, and administer in "*sore eye*," from three to five drops of an "*eye wash*," through the stomach, and I imagine the number who could not *see their way clear* would be amazingly increased. In regard to ulcerations of the throat and larynx, Belloc and Trousseau, of Paris, have recently taught the profession what it ought to have known long ago—viz. that a *local* and *direct* application is the only valuable remedy. And Dr. Green, of this city, by his strong and judicious advocacy of this treatment, has rendered the profession incalculable service. In ulcerations of the bowels, &c., &c., injections are employed to bring the *remedy to the diseased parts*.

If this principle be true, in regard to ulcerations of the mucous membrane in the *bowels*, in the *stomach*, and in the *throat*, it must also be true in regard to ulcerations of the same membrane in the *lungs*. It would be illogical, and therefore absurd, to deny this self-evident truth, even if we lacked facts to sustain it. But, fortunately, not only is this principle consonant with all our ideas of the proper treatment of local maladies; but it is further supported and proved by the cheering and unprecedented success which has attended it in the treatment of Consumption, that destructive form of disease in the lungs, which has so long been regarded as the "*stain and opprobrium of our god-like art*."

To return to the consideration of remedies administered through the stomach, I do not hesitate to say that, so long as this principle directs the treatment of medical men, Consump-

tion will pursue its onward course, and science seek in vain for an antidote sufficiently potent to stay its desolating career.

Of Cod Liver Oil, I would remark that it is a good, wholesome nutriment, and one that seems particularly adapted to that condition of the system characterized by emaciation, with loss of tone in the stomach. When the stomach is unable to digest food, the system seems to possess the power of absorbing and assimilating the oil, and of deriving support from it. It is as applicable, however, to the same condition of the system, arising from other diseases, and in no case can properly be regarded in any other light than as an article of food.

Of Treatment through the Skin.—It has been the practice of medical men to rub into the chest, alternately, "*tartar emetic ointment*," and "*croton oil*," with the view of withdrawing the disease from the lungs. These applications, in the great majority of cases, are positively injurious. They produce depression and irritation of the system, and unless there be *pleuritic pains*, the torture they occasion is not only a source of much misery to the patient, but of real and positive mischief, by interfering with the free and proper expansion of the lungs. When the tuberculous disease is complicated by pleurisy, some application to the chest becomes necessary. Under these circumstances, I have found an embrocation composed of equal parts of

Acetic Tincture of Cantharides,

Compound Tincture of Iodine, and

Soap Liniment,

of essential service. I direct half a tea-spoonful to be well rubbed into the chest morning and evening.

Of Treatment through the Lungs.—Before entering on the consideration of "*medicinal inhalations*," I will briefly glance at the influence of climate, falling, as it properly does, under the head of a remedial means, acting through the lungs. Whatever virtue there may be in the air, in the vicinity of "*pine forests*," undoubtedly arises from the resinous and balsamic emanations with which the atmosphere is impregnated, and which the patient inhales. In some instances, these ema-

nations are of undoubted advantage, but generally they prove too stimulating, and in those cases where any tendency to irritation of the lungs exists, I am satisfied injury must result rather than benefit. The same may be said of the vapor of the "sugar house," and the *malaria* of districts subject to *ague*. Benefit having resulted, in a few instances, from these influences, has induced patients to rush to them without considering that that benefit is only to be expected under precisely similar conditions of the lungs; while injury must inevitably result in all cases of different character.

I approach the consideration of "**C**limate" with some hesitation, because here, again, I must join issue with the prejudices of the public, and the practice of the profession. Without any regard to the circumstances of the patient, or the stage of his disease, it has become the custom to prescribe "*change of climate*." Nothing can be more cruel to the sufferers than this. In the case of the poor, who cannot of course afford the expense, it is doubly so, as it opens the door to regrets which are likely to harass the mind when it most requires repose. And even when the advice can be followed by those of larger means, what are the effects? In most instances, the disease progresses more rapidly to a fatal termination, and in many, the expatriated invalid finds a foreign climate but a foreign grave!

Taken from his home, and the association of his nearest connexions, who would have soothed his sufferings by a ready anticipation of all his wants, he finds himself in a strange land, surrounded by persons to whom his fate is a matter of indifference, recognising even in those who administer to his necessities, the harpies who perform ungraciously, for hire, what, in the home he has left, would have been cheerfully rendered for affection. Allowing what we do *not*—that change of climate, even in a rare instance, results in a cure in the early stages of Consumption, such influences never did, and never can, reach the disease after it has fairly developed itself.

In even the earliest stages of Consumption, climate has but little influence—especially true is this, if there has been spitting of blood. After this symptom has made its appearance,

I never knew a case where anything beyond a temporary palliation was derived from climate, and rarely even this. If there is much cough, if there be pains in the chest, indicating irritation of the pleura, or if any portion of the chest sound dull on *percussion*, the disease will only be *hastened* by the tedium and privations of the journey. And even where none of these symptoms are present, the change should only be regarded as placing the patient under more favorable circumstances for treatment. Often our best hopes are disappointed by fresh accessions of cold, which it is almost impossible to guard against in this variable climate. By spending the winter in the summer of another latitude, the patient is removed from injury, and in the *incipient* stages of the disease may possibly, in some instances, be treated with better prospects of success.

In the *advanced* stages of Consumption, after the hectic fever is established, no act of ignorance and inhumanity can possibly be greater than to send the poor sufferer wandering over the earth. Many are led to believe they are about visiting some earthly paradise, where they will forget their cares, and find a cure for their maladies—where the air bears a healing balm to the lungs, and the water quenches the hectic thirst; all nature seeming to unite in ministering to their relief. But, alas! experience soon dissipates "*into air—thin air*," this vain delusion. They discover neither the "*land of promise*," nor the *cure* for which they are in search; but learn, amid bitter regrets, that they must bear the fatigues and privations of a long journey, and then hasten home *to die*.

Flood eloquently and touchingly depicts the cruelty and irrationality of the practice of sending patients to distant parts. "I have witnessed," says he, "the ill effects of sending a consumptive patient to a foreign land, especially where disease is at all advanced; and I know that nothing can be more irrational, nothing more cruel, than to tear him away from the home and the friends that he loves, when each one around him is able by some little act to minister to his wants, and make him, from time to time, forget his condition, and banish him for the sake of climate, to some place where comfort is unknown; where his necessities and peculiarities are neither re-

eproccated nor understood; where, an alien amid unsympathizing people, he is left to feel the dim flame of existence flickering out; his latest hours harassed by the thought, that, perhaps, with the exception of his own sole companion, he will die unpitied and unwept; and will lie far from the grave of his fathers, in some spot which none will hallow for his sake.

“All this might be prevented, and it is the bounden duty of the physician *to prevent it*, instead of, as too often is the case, proposing the charge, apparently with no other object in view, than to get rid of a troublesome patient, whose malady he knows not how to treat.”

The following facts, in regard to climate, should be carefully considered by every invalid, before leaving his home. Consumption is very common and fatal among the troops and even among the natives, in all the usual resorts for invalids both in Europe and America—such as Marseilles, Nice, Rome, Naples, Madeira, Villa Franca, Havana, St. Augustine, Jacksonville, Bermuda, &c., &c. The following table *shows the influence of climate in determining the mortality from Consumption among the troops*:

PLACE.	<i>Proportion of Deaths from Consumption, to the total Deaths from all Diseases.</i>
Blacks in the W. Indies.	One third die from Consumption.
Whites in the W. Indies.	One fifth.
Great Britain.	One third.
France.	One third.
Canada.	One fourth.
Northern and Middle States of America.	One third.
Southern Do.	One fourth.
Mediterranean.	One sixth.
Cape of Good Hope.	One seventh.
East Indies.	One thirty-third.
Australia, colony of N. S. W.	One thirty-fifth.

Where disease has not yet manifested itself in the lungs by the presence of any of the symptoms already referred to, but the patient feels himself liable, by every exposure, to “colds,” it

is much better for him to emigrate to *Australia*, or to some part of the British possessions in the East Indies, which, not being subject to sudden vicissitudes of temperature, at once remove him from those atmospheric changes which cause so large a proportion of the gross mortality of Consumption, and transplant him to a climate in which this is a very rare disease. Any other change is irrational, and condemned by the united experience of all writers on the subject.

Dr. Forbes tells us, that during a residence of five years at Penzance, a place very much resorted to by consumptives, he is sorry to say, that in the great majority of cases, the change of climate was not beneficial. In no case of well defined Consumption did he witness a *cure*, or even a temporary *palliation*, that could be fairly attributed to climate. And Sir James Clark bears similar testimony in regard to the most favored resorts on the European continent.

Why, then, do medical men continue to disgrace their profession, by recommending to invalids in advanced stages, change of climate as their *only hope*, when in reality it is their almost *certain destruction*?

Having determined, however, on a change of climate, the patient should make up his mind to bear the *dangers of acclimation*, and then, should it agree with him, to adopt the place to which he may migrate, as his "*home*," during the remainder of his life. "*A winter or two*" can be of no service—nothing short of "*complete expatriation*" can prove beneficial, and may even hasten the evil he would avert. Change of climate, under the most favorable auspices, will not release him from the necessity of using those means of *prevention* and *treatment* which would be requisite at home.

It may be thought, since Consumption is so rare a disease in the East Indies and Australia, that to visit those "*blessed lands*" is all that is requisite. But, alas! experience has already taught a different lesson. While there can be no doubt, that of all the favored parts of the earth at present known to us, there are none so well adapted to the wants of the invalid; yet it is a melancholy truth, that even there, when benefit does not result, the malady runs a more rapid

course to a fatal termination. This observation is equally applicable to all *southern* latitudes.

On the Inhalation of Medicinal Vapors.—Whatever temporary relief may be derived from general means, it is only by directly applying remedies to the diseased organ, that any good can be reasonably expected to result from treatment. It is surely more rational to expect benefit from medicines that are breathed into, and brought in contact with the whole internal cavity of the lungs, than from those which are administered through the stomach.

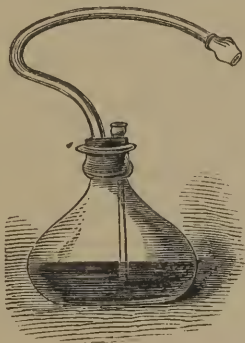
Tubercles, I have shown, are produced by obstructions to the free admission of air into the lungs. These obstructions consist, in a great degree, of mere accumulation of matter, such as the patient expectorates, in the bronchial tubes. By removing these, we afford the greatest amount of comfort and relief. The patient always finds the chest "*light and comfortable*" after the use of an expectorant inhalation. This object of relief is, in itself, one of sufficient importance to justify the treatment, but it is not relief alone that is gained by unloading the lungs of mucus that obstructs their function; respiration also is improved, and on this depends the purity of the blood, and the vital power of the entire system. On this improved *purity* of the blood, follows an improved *appetite*, on that, improved *nutrition*, and on improved nutrition, increase of strength, with subsidence of hectic fever and night sweats. I have so frequently witnessed all these proofs of amendment follow immediately on the use of a mild expectorant inhalation, that I cannot regard any case, however desperate, as beyond the reach of relief.

Having promoted free expectoration, the next object sought is to allay the irritation on which the secretion of matter depends. Chronic bronchitis, the name given to this irritated condition of the mucous membrane of the lungs, is readily relieved by inhalations of an alterative and astringent character. A speedy and general alteration takes place in the color and quantity of the expectorated matter; the patient expresses himself as "*more comfortable*." He feels that he can "*breathe deeper*," and without the same fatigue, or disposition to "*cough*."

But there is another object which is obtained by inhalation, more important than all these, viz. the *absorption* of tubercular matter, and the *cicatrizization* of cavities.

The manner of administering medicines by inhalation is two-fold, viz. by an "Inhaling Instrument," and by diffusing the vapor through the chamber in which the patient sleeps.

The inhaler is made of glass, and the one contrived by myself is of the form represented in the cut, and will hold about a pint of water. The entrance into it is closed by a cork, fur-



nished with two tubes; one of these is of *glass*, and passes from the top of the cork, down below the fluid, to within a quarter of an inch of the bottom. The other tube passes through the cork, and rises above it, is elastic, about fifteen inches in length, and furnished with a glass or *ivory mouth-piece*. The principle of its construction is very simple. On inhaling through the elastic tube, a vacuum is created above the fluid, to fill which, a stream of fresh air rushes down the glass tube and breaks up in bubbles through the medicated liquid, throwing the whole into intense agitation. This fluid, being medicated, thoroughly impregnates the air with its properties; and in this manner every effect that can be produced by medicine is obtained through the lungs with a degree of certainty unequalled by any other form of administration. By simply varying

the medicines put into the fluid the vapor is rendered "*expectorant*," "*soothing*," "*stimulating*," "*alterative*," or "*astrigent*," at pleasure.

In addition to the use of the inhaling instrument, a chamber in the patient's house is daily filled with vapor; into that he goes five or six times a day, remaining from ten to fifteen minutes at each visit. If confined to the house, the apartment in which he resides, and his bed-room as well, should be kept moderately charged with vapor adapted to the circumstances of the case, thereby maintaining through the medium of the atmosphere he breathes a *constant* action on the diseased surface of the lungs. There is nothing *offensive* in the odor of the vapors employed, and they may even be rendered pleasant by the addition of any agreeable perfume.

The remedies employed by inhalation are numerous, and varied according to the indications to be fulfilled in each particular case. The treatment of bronchitis is essentially different in its several *forms*; and *consumption*, in its different *stages* and *varieties*. In one, we wish to allay irritation, in another to arouse the dormant energies of the system; here, the expectoration must be increased; there, it is to be free, and must be diminished.

It will be sufficient to classify the inhalations according to the object to be obtained by their use. I make five classes, as follows.

EXPECTORANT.

ANODYNE.

ASTRINGENT.

ANTISPASMODIC.

ALTERATIVE.

I. *Expectorant inhalations* are used to promote expectoration where it is "*difficult*," and attended with much cough. They take the place of expectorant *mixtures*, and are much more beneficial from acting directly on the affected part. We have, in fact, no expectorants that are not entirely local in their action.

II. *Anodyne Inhalations* are of great service in the treatment of the irritable cough of old people, and employed in connex-

tion with either of the other classes, render the combined action much more soothing on the lungs. Though not directly curative, anodyne inhalations are of great service in allaying distressing symptoms, and especially in enabling us to make more free use of those of a stimulating character.

III. *Astringent Inhalations* are employed in "Humid bronchitis," and in all cases where there is *excessive* expectoration, accompanied by a relaxed state of the mucous membrane.

IV. *Antispasmodic Inhalations* are used in certain forms of "*Asthma*," nervous cough, spurious cough, and the like.

V. *Alterative Inhalations* are of the chief importance in the treatment of Consumption and Bronchitis. The medicines used as alteratives by inhalation, not only act locally on the lungs, but enter directly into the current of the circulation, extending their beneficial influence throughout the entire system. Properly administered and judiciously combined, these several classes constitute a treatment, which, by its success in diseases of the lungs, strikes at the very root of that monstrous error which for centuries has held the reason of mankind in blind submission and slavery, to custom and authority.

There is one question more that may be raised, and which it will, perhaps, be well to anticipate. Inhalation is sometimes spoken of by medical men as a mere *local treatment*. In a great degree I am willing to grant this, and to the local action of remedies within the lungs I will ascribe *all* the comfort and much of the benefits that patients derive from this treatment. But that *inhaled* remedies also act *constitutionally*, and more powerfully and certainly so, than the same remedies administered through the stomach, is likewise easily demonstrated.

You have perhaps witnessed the inhalation of "sulphuric ether," or its more elegant substitute, "chloroform;" and seen sensibility destroyed in the most distant parts of the body in a few seconds, by merely breathing a teaspoonful, the eighth part of an ounce, from a sponge, a napkin, or a handkerchief—have seen the system roused into life, from the death-like faint, by inhaling *Ammonia* from a common smelling-bottle. These are *familiar* examples. Let me now tell you that *eight* times the quantity would not produce the same effect if administered

through the *stomach*. Inhale certain balsams, and the odor is detected in the blood *immediately* afterwards. Let the sceptic go into "*foul air*" of any kind, and he will speedily have a more convincing proof of the constitutional action of inhaled gases, than language can convey. Let him enter the chamber of one suffering from "*small pox*," "*typhus fever*," or any contagious disease, and breathe the emanations that fill the room, and he will find that his whole system has been poisoned by the pestiferous vapor. The baneful effluvia enter the lungs with the breath, and poison the blood. The blood distributes it to every part of the body, and we see the effects in symptoms which show clearly that the poison has found a ready access to the system, and exerts the same influence it would have done, had it been inserted directly into the current of circulation, by opening an artery, and infinitely more marked and speedy than would have resulted from placing the same matters in the stomach.

To make this more clear, let me inform you that the lungs present an absorbing surface of fifteen hundred square feet; that the average quantity of blood in the body is twenty-five pounds; that ten pounds of this blood pass through the lungs every minute—so that in two-and-a-half minutes every drop of blood must become impregnated with whatever is carried into the lungs along with the breath. Thus the shortest exposure to any contagious effluvia is sufficient to render us liable to its influence. If, then, *poisons accidentally* inhaled, produce their action so speedily and so powerfully, surely *medicines* of a curative nature, inhaled *intentionally*, and regulated by an enlightened experience, must produce a more powerful and speedy curative action.

Experience has proved, that we can *purge* or *vomit*, *stimulate* to the wildest excitement, or *calm* to the sweetest sleep, without the use of any other means.

It is surely absurd to deny, that every thing that appeals to us for our confidence, must possess one or *other* of these *requisites*. Either it must be reasonable or self-evident to the judgment; or it must come to us on reliable testimony. There are many things that are *true*, and which we daily receive as

indubitable truths, without any testimony beyond the fact, that they appeal to the understanding, with the power of IRRESISTIBLE CONVICTION! There are other things, perhaps equally true, that we receive only on the testimony of those who profess to have had *satisfactory* and *conclusive* evidence. We believe, not because our *reason* is convinced, but because our interest or credulity lead us to repose confidence in their testimony. But, when any *new* or *untried* principle is presented, with these two-fold requisites for judgment *blended together*, in its support—is *reasonable*, and *proved to be correct* by the experience of all who have had an opportunity of observing its effects; *weak* and *prejudiced* indeed must be that *judgment* which remains undetermined still—and continues on in ERROR!

I can confidently point to the simplicity and self-evident truth of these principles, as the basis of the treatment by inhalation, and feel that they must commend it to every intelligent mind.

The course of treatment pursued in ordinary cases of Consumption, is embraced in the following general directions, which I have thought best to present in this form, as being more easily understood.

Having carefully examined the condition of the chest, and determined the nature and extent of the disease, medicines are prepared of such strength, that of a certain mixture two teaspoonfuls will be a dose. This is labelled "*The Inhalant*." Another mixture, employed with a view of soothing the lungs, is labelled, "*The Anodyne*." Armed with an *Inhaler*, of the form before described, an *Inhalant*, and *Anodyne*, the following are the directions for their use:—

I. Half fill the Inhaler with hot water, being careful to add it so gradually as not to break the glass. Then put into the water, two teaspoonfuls of the *Inhalant*, and half a teaspoonful of the *Anodyne*, when the vessel is ready for use.

II. Inhale the vapor *gently* but *deeply* into the Lungs, and exhale through the nostrils. Be careful to expand the chest to its greatest capacity, but without *straining*.

III. Continue each inhalation for *five, ten, or fifteen* minutes, as you are able to bear without fatigue.

IV. Repeat the inhalations three times a day; about half an hour before the usual time for meals.

V. As you gain strength, a fourth inhalation may be taken just before retiring to bed.

VI. Should there be pain in the chest, half a teaspoonful of the "*Embrocation*" (described on page 63) to be well rubbed into the painful part, morning and evening.

VII. Never attempt to force an appetite. Avoid salt meats, pastries, and condiments. Take your meals at equal and regular intervals, and do not follow the practice advised by many, of "*eating a little, and often.*" This is injudicious, for in disease, the stomach partakes of the debility of the body, and requires rest. Fresh meats, game, poultry, and fresh fish, with plain vegetables, rice, bread, milk, and weak tea or coffee, should make up the diet of the consumptive invalid. Whatever is taken, the stomach should be able to transform into good nourishment. A cup of boiled milk, with a tablespoonful of tea or coffee of the usual strength in it, is generally acceptable. Good London or Dublin Porter, "*old and well up in the bottle,*" is not open to the usual objection to wine and stimulating drinks. Good porter is a *spur* to digestion, and rarely disagrees with the stomach. All *set* diets are objectionable. The stomach must always be consulted; though I deny the indulgence of morbid cravings after that which is injurious, I do not, on the other hand, fix upon any exclusively "*fish,*" "*farinaaceous,*" "*milk,*" or "*vegetable*" diet, but leave the appetite to roam over all, selecting from each that for which it has the greatest relish.

VIII. Exercise should be taken in the open air, daily, to the extent the strength will permit. The best exercise, all things being favorable, is on horseback. If too weak to sit on horseback, a carriage drive should be taken every fine day, being careful to avoid *currents* of air, and *facing* the wind. If the carriage is a close one, open the window on the side from which there is the least wind.

IX. As a protection to the chest against cold, wear flannel

next to the skin; over which, a shirt made of "*chamois skin*." This should come well up about the neck, and descend below the waist. Never, on any consideration, allow the body to become chilled.

The directions for the use of the vapor in the room will depend on the *kind* of vapor to be used. Some are prepared by simple *evaporation*, others by *decomposition*. The *kind* used will depend on the *object* to be fulfilled by its employment. They are prepared from iodine, chlorine, red fuming nitrous acid, all balsams containing benzoic acid, and from many other agents which I do not deem it necessary or advisable to mention in a popular treatise of this nature. My aim has been to explain what is meant by inhalation, to point out the manner in which it is administered in diseases of the lungs, and to make you acquainted with the results which have followed therefrom.

"I am thoroughly convinced," says Sir Charles Scudamore, "that in proportion as inhalation in tubercular consumption and chronic bronchitis is more used and really understood, and done justice to, so will its high value become known, and its good name be established. This practice should be persevered in for a great length of time, beginning with twice a day, soon increasing to three times, then decreasing to twice, afterwards to once, and even occasionally suspending its employment; by which plan, on its renewal, its efficacy may be greater. As to the time, also, for continuing the inhaling, five or ten minutes may be mentioned for the beginning, to be increased, in progress, to fifteen or twenty or twenty-five minutes."

These, with careful attention to sympathetic derangements of the stomach, bowels, and other organs, constitute the means that are to be resorted to, in the treatment of every case of bronchitis and Consumption. There are many circumstances, such as casual attacks of "*cold*," "*hemorrhage*," and "*diarrhœa*," that may, from time to time, interfere with its regular continuance in every particular; but as the cause of the disease remains unchanged, the principles guiding our treatment must still be kept in view, and as nearly as possible carried

out. Once on the right road, no obstacles must be permitted to allure you from it, into those by-paths which, although attractive to the eye, assuredly lead through the "*land of gins and snares, of quagmires and precipices, to the valley of the shadow of death.*" With the sunshine of hope on your way, journey onward, drawing consolation in your present affliction, and encouragement for the future, from the inspiring language of those who have been themselves thus tried.

I. The following remarkable instance of recovery is well detailed in the letter of Mr. Andrews:

"INHALATION IN CONSUMPTION.

"*To the Editors of the National Intelligencer :*

"WASHINGTON, D. C.

"*Gentlemen :* Influenced by a sense of the duty I owe to mankind, I would respectfully request the insertion in your valuable paper of the following statement of my sister's illness and her recovery from Consumption.

"During the fall of 1851, she was violently affected with cold, followed by a disagreeable cough, which continued some months, being increased by each additional cold. In January, 1852, a severe pain commenced in the left side and region of the heart, accompanied with violent cough, night and day.

"Such was the severity of the cough and the distress arising from a suffocating sensation on lying down, that she was compelled to sleep bolstered up in bed. There was great difficulty in breathing, thick yellow matter was coughed up from the lungs, occasionally mixed with blood, and towards the latter part of February nearly half a pint a day.

"Her strength was wasted, there was great oppression of the chest, with a rattling sound in breathing. Her face was flushed with hectic fever, and the eyes burned with a peculiar brilliancy.

"Under such circumstances we could not doubt that her lungs were very much affected, and we had no hope of her recovery. Such was her state at the close of February, with the symptoms increasing in violence, when she commenced inhaling 'medicated vapors' under the direction of Dr. HUNTER.

"We had not long to wait for evidences of improvement. The cough soon became less severe, the matter was raised from the lungs in large quantities without much effort, the oppression in breathing went off, hectic fever disappeared, her rest became comfortable, and her appetite and strength returned.

"In a month she was out of danger, and in two perfectly restored to health. A year has since elapsed, and she continues free from all traces of disease.

"This happy result we feel was due entirely to the use of inhalation, and under this conviction feel it to be our duty to proclaim it to the world; and this I deem will be a sufficient excuse for asking for this letter a place in your widely circulated paper. Your obedient servant,

"FREDERICK ANDREWS,

"Dunbarton st., Georgetown.

"GEORGETOWN, D. C., April 25, 1853."

The above case presented all the usual indications of *Acute* or "*Gallop^{ing} Consumption*." The tuberculous diathesis was very strongly marked. Nearly two years have passed since this lady came under my care, and yet she not only continues free from disease of the lungs, but is at this time in the enjoyment of even vigorous and robust general health.

II. Bronchitis, with High Irritation, and a Distressing Cough.—Mrs. P., aged thirty-two, suffered for the past two years with a distressing cough, profuse expectoration on rising in the morning, and generally after meals; great loss of flesh; fever about four o'clock in the afternoon daily, followed by night sweats and loss of sleep; the stomach very much disturbed, and the whole system in such an irritable condition, as to render her life miserable.

This patient was under my *immediate* care only for about a fortnight, in December, 1851. At the end of that time, she returned to her home, in Ulster County, N.Y. She kept a diary of her symptoms, from which I extract the following, at the end of the ninth week's treatment:—

"This is my diary to the 23d of February, 1852. I think you will agree with me, that it is not necessary to use the medicine now so freely as I have done, and that I may soon give it up altogether. My strength is returning rapidly, my appetite is very good. I have now no expectoration to speak of, and altogether, I believe I feel better than I have during the past five years. Though I do not consider that I have been suffering from bronchitis more than two years, yet I have found pain and dryness about my throat much longer, and two or three times had swelled tonsils before the bronchitis set in."

In this case, treatment was discontinued at the end of twelve weeks. In March last, I learned that the lady had had no relapse, and was quite well, since which I have lost sight of the case.

III. **Bronchitis, with Predisposition to Consumption.**—A gentleman, aged twenty-three years, accustomed to speak in public, had been afflicted for ten months with cough and expectoration of viscid mucus; pain in the left side; a burning sensation along the air tubes, and generally over the upper part of the right lung; shortness of breath, and nervous excitability; a disordered digestion, and a general sense of discomfort.

A strong inhalation of balsam of Peru and *Canadensis*, with the addition of a small quantity of *copaiba*, was prescribed, with strict attention to the general health, proper diet, exercise, &c., which instructions were faithfully followed for a period of eight weeks; at the expiration of which time I received from him the following *unsolicited* testimonial:—

“DEAR SIR,—

“I beg leave to express the satisfaction I have experienced from your treatment of the bronchial affection from which I have been for some time past suffering—so much so, as to excite serious apprehensions for the health of my lungs. Perhaps this idea may have been strengthened from the fact that one of my parents died from Consumption, and because of my chest being rather contracted. I have found great relief from your inhalations, and my health generally is much improved.”

IV. **Chronic Sore Throat, with Irritation of the Larynx and Bronchia.**—A gentleman, aged twenty-three, engaged in mercantile business, was afflicted for several years with disease of the throat, accompanied by hoarseness; expectoration of mucus of a greyish yellow color; shortness of breath, after slight exertion; oppression and weight on the chest, and loss of flesh, with an almost daily recurrence of slight chills and fever.

Inhalations of iodine and conium, alternating with those of an expectorant character, and with balsamic inhalations, which exert a peculiar and most powerful action on all mucous membranes, were prescribed in this case, with exercise on horse-

back in the open air, generous diet, a glass of porter at dinner, and occasionally the use of some mild aperient to regulate the bowels. He steadily improved under this course, and at the end of three months the treatment was discontinued, with the exception of using the inhaler once or twice a week, as he quaintly styled it, to "*sound the lungs*."

In reply to a letter addressed to him to ascertain if the improvement continued, he writes:—

"My disease having continued so long, I had almost despaired of my recovery from it, as the remedies I had applied from time to time, prescribed by different physicians, only gave me temporary relief, without affecting the seat of the disease. I can speak *confidently* in regard to INHALATION.

"My health, in every respect, has very much IMPROVED. The disease in my throat, I believe to be *entirely* removed. I experience no unpleasant sensations arising from it; and, from my own experience, the fact to be deduced is, that inhalations are the most reliable for obtaining the result ardently desired by all persons laboring under affections of the throat, with derangement of the stomach and liver, such as my case was regarded by physicians of this city."

V. *Bronchitis, of Long Standing*.—The patient in this case was very much debilitated, suffered from shortness of breath on every slight exertion, and was evidently fast falling into a decline, though, from her position and circumstances, no means were left untried. In consequence of the benefits derived by a relative residing in Washington, D. C., this lady, the wife of a distinguished officer in the American army, came under my care. At the end of two months she writes as follows:

"Feeling myself so much better, I do not think there is any necessity longer to consider myself your patient. Should anything occur to require it, I will write again, and consult you. I should like, if you have leisure, one or two of those prescriptions which I used while in Washington—particularly the one that so greatly relieved me by causing free expectoration. The General desires to be kindly remembered to you both. As for myself, I can say but little. It would be like trying to thank you for saving my life. I feel this debt of gratitude, but cannot express it."

VI. Tubercular Consumption, *with cavities in the right lung, one at the apex or top of the upper lobe inclining to the back, another on the lower and inferior face of the same lobe; hemorrhage, hectic fever, night sweats, &c. &c.*

The following letter was addressed, as will be seen, to the Editors of the Troy "*Daily Times*" by the gentleman under whose signature it appears. I feel that it is quite unnecessary to add anything by way of explanation. It tells its own story in a plain, intelligible, and common sense manner.

MEDICATED VAPORS IN CONSUMPTION.

"To the Editor of the Troy Daily Times.

"SIR,—The following happy results from the inhalation of medicated vapors in my own person, I felt it my duty to make known to the public, for the benefit of those who, like me, have sought in vain, through months and years, for relief from that most fatal and distressing disease, consumption. I have not only experienced in my own person the greatest relief from inhalation, but have witnessed equally good effects in others. I am of a consumptive family—my mother and sister having died of consumption—and for the past five years have suffered almost constantly from a hacking cough and shortness of breath; the cough hung about me, and though I was for ever taking mixtures, I could not get rid of it.

"In December last I was taken with bleeding of the lungs, and within a few days had three severe attacks. The loss of blood was very great, and I lay for a number of weeks unable to rise, even for nourishment. I suffered from soreness and tightness through the chest; I raised from the lungs heavy bloody matter, more than half a pint a day, for twenty days, at times greenish or dark and yellow-colored matter, and of a bad smell. I suffered dreadfully from want of breath, had night-sweats, and hectic fever; my hands and feet were cold, my nervous system irritable, and I had lost from twenty to thirty pounds in weight. This was my state for more than a month before I commenced using medicated vapors under the direction of Dr. Hunter, which I was induced to do by the advice of my physician. Dr. Hunter having examined my lungs, pronounced them to be ulcerated, with a cavity in the right lung, which agreed with the previous opinion of my physician, and with my own convictions, for I could hear the matter rattle in my side. It is now about seven weeks since I commenced, and the improvement in my health is so great that I could not

longer remain silent, believing, as I do, that by the same means many who are now given over to die may be restored to health.

"In the first week of treatment the discharges ceased one half. I have gained flesh and strength, go out daily and ramble through the city without much fatigue, and am in every respect a new man. I have a good appetite, and my appearance is so much improved that my friends, who saw me on my bed, as they thought a dying man, would scarcely recognise me in the street. But my confidence in the use of medicated vapors is not alone from the happy effects in my case, for I have seen great benefit derived by others in this city from their use. I inhale in two ways—warm from an inhaling instrument, 'and cold, by filling a chamber with vapor, into which I go three or four times a day, remaining from five to ten minutes at a time, according to the strength of the vapor.'

"Before my severe attack in December, I was under the care of several physicians—took cod liver oil, cough mixtures and pills, without lasting benefit; used abdominal supporters and braces, and, in fact, did everything that man could do to acquire health; yet, notwithstanding all, was steadily growing worse. One thing has surprised me more than anything else, and that is the many different opinions I have received in regard to the state of my lungs from physicians of high standing.

"During the first two years I was told that my disease was slight, and would soon pass off as the weather became warm. Some said one lung was slightly affected; others, that my disease was in the liver. After a time, the difference in opinion in regard to there being disease of the lungs ceased; but in its stead they disagreed as to its nature—one pronouncing it bronchitis, another consumption. Whatever my disease may have been at an earlier stage, I believe that at the time I commenced treatment all were agreed that it was a decided case of consumption; and it is from a sense of duty I owe to my friends and the public that I seek, through your excellent journal, to make known to the world the benefit I have derived, and the means by which it was obtained. I will be most happy to give any further information that may be desired in regard to my case.

JOSEPH WARFORD,

No. 48 North Fourth street, Troy.

The above statements I believe are substantially true.

Rev. B. O. MEEKER,

Pastor of the 2d street Methodist E. Church.

WARD WILKINSON,

J. E. DURMONT, M. D.

West Troy."

This case came under my care in January, 1853. By the first of April he was so far recovered as to remove to New York, and to engage in some employment connected with the Crystal Palace, at which he continued the greater part of the summer, exposing himself to hardship in the most reckless manner. In the month of August, during a violent exertion, he ruptured a blood-vessel, and literally *bled to death*.

VII. *The following was a well marked case of Consumption, and had been so pronounced by the medical gentleman previously in attendance. There was dulness on percussion over a considerable portion of the upper lobe of the right lung, shortness of breath, fatigue on slight exertion, gradual wasting of the body, &c.* I present this case also in the language of the patient:

“INHALATION IN CONSUMPTION.

“*To the Editors of the N. Y. Tribune.*

GENTLEMEN: From December to April last I was suffering from disease of the Lungs, variously regarded by my physicians as ‘Bronchitis,’ ‘Bronchitis with Asthma,’ and ‘Consumption, with tubercles in the right lung.’

“In the early part of April I was so emaciated as to be scarcely able to walk. I had a severe cough, which increased on lying down at night, and on rising in the morning; suffered dreadfully from shortness of breath on going up stairs, or the slightest exertion. What I spit up was of a greenish-yellow color, and sometimes tinged with blood. My appetite was gone, and I had constantly a painful sense of oppression through my chest. Under these circumstances, by the advice of Dr. Robert Hunter, an English gentleman, residing at Washington, D. C., I was induced to try the effect of inhalation in the following manner: Medicines were placed in a glass inhaling instrument, so constructed, that the air, in its passage to the lungs, passed first through a medicated fluid, thus conveying the properties of the medicine in the form of vapor into the lungs. I also inhaled in a small room which was daily filled with medicated air, for that purpose. Into this room I went five or six times daily, remaining from five to ten minutes each time. The effect was truly surprising. Almost from the commencement I felt sensible of benefit; the irritation in my chest was soothed, the expectoration became free and easy, the oppression and shortness of breath gradually went off, my appetite and strength improved daily, and within two months, having scarcely taken a dose of

medicine by the stomach, I was sufficiently restored to return to New York and resume my business (that of an artist and designer), and I am now, at the end of six months, in the enjoyment of excellent health. Believing that I owe to inhalation not only my present good health, but, in all probability, my life itself, I could not refrain from bringing it before the public, in the hope that a knowledge of these facts may prove equally beneficial to others similarly afflicted.

"I am, Sir, your obliged and obedient servant,
["New York, Oct. 7, 1853. JUSTIN H. HOWARD."

This gentleman is now residing in this city. He has continued in good health since the date of the above letter, and is quite as strong as at any former period of his life.

VIII.

"INHALATION IN ASTHMA.

"ALBANY, Monday, Oct. 10, 1853.

"*To the Editor of the N. Y. Tribune.*

"SIR: Believing the following facts will be of interest to many of your readers, I crave a place for them in the columns of your paper. In June, 1852, my strength began to fail, and continued to do so for several weeks, when cough set in, and I began to raise dark yellowish matter. Then once or twice every twenty-four hours I would have violent paroxysms of Asthma. I grew weaker, and continued to raise matter until I was confined to my room. After being under the care of my physician for several weeks, I was able to go out, yet in a very weak and feeble state. My breath was so short that I could only walk a few blocks without stopping to rest, and my Asthma grew worse and worse. I had now severe pain almost constantly in my left lung. In this state I was led to try Inhalation, under the direction of Dr. HUNTER, of Washington, by breathing medicines, in the form of air or vapor, from a glass instrument, and by going several times a day into a chamber filled with medicated air. From the time I began this treatment my strength increased; I could walk with greater ease, and my breath became freer. In four weeks all the pain in my lungs was gone, and with it every symptom of my Asthma. At the end of two months and a half I could walk four miles in an hour without fatigue. For the past four months my health has been better than for years previous, and I have not a symptom of my distressing malady left, all of which I most cheerfully ascribe to

Inhalation, as employed by Dr. HUNTER, of whose kindness, attention, and skill I stand a grateful witness,

"Your obliged servant,

"E. L. PASCO, Albany, N. Y."

IX. Tubercular Consumption.—A gentleman, aged forty-three years, very weak, and much reduced in flesh. Pulse from ninety-six to one hundred and ten; cough very distressing on lying down. Expectoration about three ounces a day, of a greenish-yellow color, offensive odor, and frequently streaked with blood. Great shortness of breath on going up stairs, or on the slightest exertion. During the *time* of inhaling, this patient was very much troubled with cough; but the freedom of expectoration, and the great relief afforded, made ample amends for this temporary inconvenience. At the end of three months, during which Inhalations were used four times daily, conjoined with such general attention to diet and exercise as the varying circumstances of the case required, he writes as follows:—

"I cannot now be mistaken as to the curative nature of your Inhalations. My health is steadily improving, and has been without one drawback for five weeks. From no means that were ever before employed in my case, did benefit, beyond a very temporary amelioration, arise. Some of my friends object to my praise of the inhaling treatment, as I have also made use of some medicines internally, at the same time; to which I reply, that an immediate relief was given to my cough, which had continued, notwithstanding all the means prescribed for its relief. Besides which I had used, to some extent, most of the patent syrups, all of which did no good, and were it not for the Inhalations I should not have felt so much comfort after each, in the commencement of the treatment. It is a source of gratification to state, that with the increased strength of my lungs my stomach and general health are also greatly benefited. I feel sure that it is only necessary to pursue the same pleasant course to regain my health in all its former vigor."

X. As an additional proof of the curative powers of inhalation.

tion, in *advanced stages of Consumption*, I quote the following case, from Sir Charles Scudamore.

"A lady aged 32, of delicate constitution, took cold in June, and soon became afflicted with a troublesome cough, followed by fever, emaciation, and debility. Her situation in January was very alarming, being much emaciated and extremely weak. The cough was violent, and so peculiarly harassing at night, that the sleep was constantly disturbed; pulse ranging from 120 to 130, expectoration difficult, and in quantity about four ounces in the day, partly colored with blood of puriform appearance, and of a peculiar faint and offensive odor. Morning and evening accessions of hectic fever; night perspirations very profuse; digestion weak and irregular. She was so reduced in strength as to require being carried from the bed to the sofa in the adjoining room. In addition to INHALATION, particular attention was paid to the diet, which was of a nourishing, supporting character, and such internal and external remedies were ordered as the case seemed to demand. In the first fortnight, the improvement in every particular, was very remarkable. A relapse soon occurred, still the case presented some features of amendment; the countenance being less haggard, the hectic paroxysms less urgent, expectoration less in quantity, the appearance of blood less frequent, and the nights more comfortable.

"In the beginning of March this lady was brought to town and placed under our immediate care. She had again improved since our last report, but had subsequently relapsed; and it was manifest that there had been fresh softening of the tubercles; indicated by increase of hectic-fever and night perspirations, by increase in expectoration and its bloody and more puriform appearance, with an offensive odor; by greater quickness of the pulse and loss of the newly recovered flesh and strength. During the progress of this case, several relapses occurred, in which the *fresh softening of the tubercles* was on every occasion indicated; always preceded by increased frequency of pulse—alternate *chills* and *heat*, return of night perspirations, quickly followed by increased debility, purulent expectoration, frequently mixed with blood. The

Inhalation was never neglected, though it was changed on two occasions, and latterly much increased in strength.

"Towards the latter part of May, her strength was so much improved, as to allow of carriage airing on every favorable day. Notwithstanding the occasional relapses, the general state of the patient was that of decided and very encouraging amendment. She was on full diet, and drank upwards of a pint of porter daily. In July she was so much recovered, that on account of the heat of the weather, she was removed to a healthy spot in the country, for the advantage of country air. Afterwards, the progress of recovery was almost uniformly favorable. In November, we had the satisfaction of seeing our patient strong and vigorous!" Sir Charles adds:—"I know of no mode so rational in theory, as the treatment by inhalation, which affords the opportunity of conveying the power of the agent to the *very seat of the disease*; and, I trust, that in this case I am fully borne out in the zeal which I show to enforce the practice."

"In Consumption, *even in desperate circumstances*, I recommend the use of 'Inhalation,' as being calculated to afford great comfort and relief, *and the only possible chance of cure*. Before the disease has made much destructive progress, I have had ample proof of the curative power of Inhalations. I hope that I have performed some service to medical science and humanity, in proposing a treatment novel in many respects; always perfectly safe, and never failing to render real benefit. In Chronic Bronchitis, the benefits are so well proved by the speedy favorable alteration produced in the quality and quantity of the expectoration, and by the sensible relief which is experienced by the patient, that no question of the value of the remedy can be easily entertained."

Here then we have the experience of those who have tested practically the benefit to be derived from this treatment. I confidently affirm that the same cannot be derived from any other means at present known to the medical profession.

Did space permit I could add a hundred additional testimonials from those who have derived advantage from inhala-

tion in the various forms of disease of the air-passages and lungs; but I will only make room for the following letter, which was addressed by a gentleman holding a high official position at Washington, to a friend residing in the city, in reply to certain inquiries on the subject.

XI.

“WASHINGTON, D. C., *Dec. 21st, 1853.*

“Although I do not know Dr. Hunter personally, I know sufficient of him and his system of Inhalation, to state that it has great merit. Whether it will produce a radical cure of Consumption I cannot say. Thus much has come under my observation. My wife's mother was all last summer, fall, and winter (1852-3), so prostrated with what was called a pulmonary complaint, that her friends had given up nearly all hope of seeing her again venture out of doors, or of seeing her alive many weeks or months. A brother of my wife's had died last spring of a similar disease, and another brother seemed destined to go the same way.

“The latter, hearing of Dr. Hunter, called on him, and placed himself under his treatment. In a short time a great improvement had taken place, apparent to all who knew him. Seeing this, his mother was induced to do the same, and from that moment she has improved, until she is now, though not perfectly recovered, in much better health than she has been for years past. Her case I consider a remarkable one, and it satisfies me that there is great virtue in the system of Dr. H., and I would therefore advise any persons afflicted with pulmonary complaints to try it by all means.”

The lady referred to in the above letter presented all the local and constitutional evidences of confirmed consumption, with a strong hereditary predisposition. The case, in every feature, was clearly marked, and of the most unfavorable character. Yet the disease has been arrested; she has gained in flesh and strength, and is able to drive about the city, and should nothing unexpectedly occur to blast the promise of the present we can look forward, notwithstanding the strong predisposition, the confirmed character of the disease, and the extreme prostration of the system which existed at the commencement,

to her full and entire recovery. The son referred to has also quite recovered, and for the past three months has discontinued treatment, feeling no longer a necessity for it. It may be well to observe that in both cases every resource of the usual treatment—"cod liver oil," "counter irritation," "*mixtures*," "applications to the throat," &c., &c., had been employed without the least benefit.

XII. The following gratifying results from the use of this treatment in *hooping-cough* will be read, I have no doubt, with much interest.

NORFOLK, VA., July 21st, 1851.

DEAR DOCTOR:

I "I feel that I ought not to neglect testifying, in some degree at least, to the success which has resulted from your treatment to my daughter (Martha W. Thomas). But, sir, feeling my own incompetency to do anything like justice to a subject of this kind, I shall simply state the facts in her case, as far as I can, previous and since she has been under your treatment. She is now in her eighth year, and has been, from her infancy, suffering from an unnatural compression or deformity of the breast-bone; so much so, that she frequently suffered intensely with a spasmodic affection of the heart, which from time to time threatened her life. She has always been very susceptible of cold, and almost continually suffering from a hacking cough. Some few months since, she was taken with the hooping-cough, and unfortunately took cold with it, which settled upon her lungs, and continued gradually to increase, until she was almost entirely deprived of rest at night, and from violent coughing, was also attacked with hemorrhage from the nose. But, sir, it affords me much pleasure to say, that after she had been under your treatment for a short time, the expectoration became much freer, and in about ten days she was entirely relieved, and still continues free from it, though six weeks have now elapsed; her general health is now as good as any child's of her age, she has an excellent appetite, and sleeps as well as anybody. Her chest has been very much relieved; the cavity or hollow at the lower part of the breast bone, is now filled up; the upper part, which protruded almost to a point, has been flattened and expanded; the sides, which had a tendency to curve in, have been elevated, and the chest now begins to assume something of a natural shape; all of which I attribute,

most cheerfully, to your inestimable treatment. I feel confident, by following your directions, she will eventually become perfectly sound and healthy in every respect.

"Hoping that you may long live to relieve suffering humanity, I am, dear sir, very respectfully, your ob't ser't,

"W. M. B. THOMAS."

This case was treated by my assistant, Dr. Wellesley.

In the face of these facts in proof of the sufficiency of our art not only to *cure* bronchitis, asthma, and other affections of the lungs, but also to promote the absorption of tubercles, and the healing of cavities caused by ulceration, Dr. Gerhard proclaims the medical treatment of Consumption to consist in "removing accidental complications or conditions of the body which favor the growth of tubercles, rather than by acting upon the tubercular secretion itself." We are, according to this writer, to treat the *effect*, and leave the *cause undisturbed*! We are to dam up the muddy *stream*, and leave the *fountain* from which it flows *unpurified*! The consequence of this course can easily be anticipated. Disease, capable of producing such general disturbance of the system in its early stages, will not become less so when it has broken down and disorganized the lungs. Soon this system of palliation itself fails, and then all the horrors of his impending doom burst at once upon the patient. This, Dr. Gerhard fully admits, when he tells us at the close of the same paragraph, in alluding to the derangements of the stomach, bowels, &c., that "*these are often readily removed, and the patient is apt to mistake the apparent amelioration in his condition, for a real improvement in the disease.*" And Dr. Swett, from whose work I have already quoted, in relation to the possible *curability* of this disease, teaches a similar doctrine. These gentlemen write long and labored treatises on diseases of the chest, and then sum up their treatment, in a single paragraph, acknowledging their own inability to advise anything on which either the physician or the patient can rely with any reasonable promise of benefit. The indications of treatment laid down by Dr. Swett are two-fold, viz. to sustain the *strength*, and avoid *irritation*. In the early stages, the patient is advised to take "*exercise in the open air.*" If in-

inflammatory symptoms occur, "*bleeding, leeches, or cups;*" to live on a "*mild, nutritious diet;*" to use as "*little medicine as possible;*" and then only to combat "troublesome symptoms as they arise." "There is no specific remedy for Consumption. If the disease is limited in extent, slow, and intermittent in its progress, seek a favorable climate. In the advanced stages, as the powers of digestion fail, give *tonics* and *stimulants*. Check local *irritation* by *opium*, diarrhœa by *astringents*, night sweats by mineral acids, and finally, the close of life must be soled by attending to the immediate comforts of the patient."

This is a very natural termination of the treatment, and the only one that could be reasonably expected to result. I am not surprised that such writers should regard Consumption as incurable, after it is "*sufficiently advanced to be discovered,*" for to discover it is, in reality, to hurry it on to its conclusion. In the early stage, the patient must fold his arms, and "take no medicine;" he must fall asleep on the brink of the precipice, without attempting to remove to a safe distance from it! The disease goes on, unchecked, from *miliary granulations* to *crude tubercles*, from *crude tubercles* to *ulceration of the lungs and death*; and all that the physician can do, is to prescribe for "*irritation,*" "*diarrhœa,*" and "*night sweats,*" without endeavoring in the smallest degree to remove their cause! Instead of a positive and determined effort to rescue the patient from the toils of the disease, his malady is tampered with by *palliatives*, which disguise the real danger until changes have taken place in the lungs, the fatal consequence of which no measures may be sufficient to avert.

I cannot refrain from quoting the following sensible remarks on this head, by Dr. Flood. He says: "Except in a very small number of cases, we are not consulted at all, until considerable progress has already been made in the disease; we may find our patient, at the very outset of our attendance, much emaciated with harassing cough, purulent expectoration, and occasional hæmoptysis; on application of the stethoscope, we may detect pectoriloquy, more or less distinct, leading to the suspicion of the existence of a tubercular cavity, and on percussion, there may be considerable dulness over the upper and

fore part of the chest, leading to the probability of much tuberculous induration—in short, we may find him in a state of confirmed Consumption. What is to be done? Are we, after listening and percussing, percussing and listening again, to shake our heads, and say, ‘My good friend, you are in a Consumption, nothing can be done to save you?’ God forbid! The physician who intimates as much, though he does not say it in so many words, utters a libel on his art—for, although in such a case our prognosis ought to be exceedingly guarded, still much *may* be done, and much *ought* to be done. How? Not by setting out with the impression that the patient’s disease is incurable, and that temporary ease is all that we can promise him—not by prescribing potion after potion, with the view only of allaying some troublesome symptom—not by merely opening the bowels when they are confined, or confining them when they are open—not by promoting expectoration when too scanty, or checking it when too great; these, though they constitute nearly the whole of the present method of treating Consumption, could be accomplished by the veriest greenhorn who had spent but six months in his master’s dispensary, almost as effectually as the master himself. They are well enough, so far as they go, inasmuch as they may relieve the distress of the patient, but as curative means they are utterly worthless—nay, they are cruel, because this very relief lulls the patient into a false security, and induces him to think that he is making way against his disease at a time, perhaps, when he is on the verge of dissolution. No; we must take up arms boldly against the first great cause; it should be our endeavor to check the torrent itself, and not to occupy time, of which every moment is precious, in intercepting the straws which only serve to show how the current is running.”

Inhalation enables us to attack the disease in the lungs, to promote the absorption of the tubercle, and to bring back again the inflamed and thickened mucous membrane to its healthy state. These are the objects sought by this treatment; and I do not hesitate to say that when generally understood, and faithfully and judiciously employed, Consumption will cease to be regarded as the most fatal of maladies.

It is not, however, to be expected, in a disease of such inveterate character, seen for the first time in the second stage, and often only in the *third* stage, that recovery will be rapid, or that there will not occur many discouragements during the continuance of treatment. This is the case with all chronic diseases. Many recover from a state of great feebleness and emaciation very rapidly; others more slowly, and some only after the treatment has been long persevered in. The age of miracles has passed—in our day we are compelled to work by *means*, and those means can only prove successful when properly and perseveringly employed.

In conclusion, it must not be supposed that every case submitted to *inhalation* will go on to the perfect restoration of health. This is not the result in any serious disease, by even the most judicious treatment. Friends and relatives die from “*inflammations*” and “*fevers*,” though treated with the utmost skill from the earliest stages of their disease! And from the importance of the lungs in the economy of life, it cannot be expected that Consumption, however treated, will ever cease to be one of the most fearful instruments in the hand of the Angel of Death.

There is one point more, to which I will advert, and that is, the unwillingness of those suffering from diseases of the chest, to acknowledge themselves in any danger, until their disease has reached an advanced stage. This has arisen, no doubt, in a great degree, from the presumed hopelessness of such cases. I would warn all who may have a frequent desire to “*clear the throat*,” and who become fatigued and “*out of breath*” on every slight occasion, that they are on the high road to all those changes and symptoms which constitute pulmonary consumption—that the disease begins, in the majority of cases, as “*cold*,” ending in a “*sore throat*”—that, gradually, it extends down the windpipe, rendering the voice slightly hoarse and indistinct, first observed on reading aloud—and that, finally, it involves the “*bronchial tubes*” and “*air cells*.” The seat of the primary disease is the mucous membrane of the throat, windpipe, and bronchial tubes. The expectoration comes from this membrane, and the tubercular matter is deposited on its sur-

face. If, therefore, they would avoid the dangers which attend Consumption in an advanced stage, they will not disregard these signs of impending evil; but by prompt and judicious means, seek to restore the offending organ to its former tone and health. You may think that I give undue importance to these trifles, from which most persons suffer in some degree; but go to those among your own immediate relatives and friends who are now in the last stage of *Consumption*, and ask them how their disease began? They will, in almost every instance, tell you of a *slight cold*, a *hacking cough*, or a little *soreness in the throat*, which were treated as scarcely worthy of notice, a few months ago; and will add that their cough grew worse; their expectoration increased; that hectic fever set in, and they began to lose flesh. Still they regarded it as only a "*slight bronchial affection*." Delusive words! The name "*Consumption*," would have awakened them to a consciousness of their true state—that name was withheld; and in fancied security, they have journeyed onwards to the brink of the graves now yawning to receive them, as tributes from ignorant or injudicious practice! No remedy that is not a *miracle*—no hand that is not *omnipotent*, can now infuse warm and vitalizing blood into those pallid cheeks and that emaciated form—can restore again to health, vigor, and harmonious action, the broken and disorganized machinery of life.

Whoever leaves on a journey, by a safe and an *expeditious* conveyance, is not more certain of arriving at his destination, than he who is suffering from *sore throat*, at that of *confirmed Consumption*! Many casualties and circumstances may occur to retard or prevent the fulfilment, in one as in the other; but without such, the rule has few exceptions. It is, in fact, but the operation of *cause* and *effect*!

I have now unfolded the treatment by *inhalation*, as employed in diseases of the *throat* and *lungs*, by Dr. James Hunter and myself. That it has been attended with a degree of success not hitherto attained or deemed possible in these diseases cannot be denied. Conceiving, therefore, the principles advocated and the facts contained in this little book to be of im-

portance to mankind, we cast them forth as "*bread upon the waters*," to achieve their legitimate end.

However the *theory* may be regarded, the *practice* I know to be based on the rock of sound philosophy, immutable as the foundation of nature and truth! And, being true, is it not important that these principles should be universally known and as generally adopted?

"In the first glow of beauty, the first flush of light,
Should the day-dawn be swathed in the shadows of night?
Should the star of the morning pass fruitless away,
And break to the fair earth its promise of day?
Ah no! then why fade thus the loveliest flowers?
Why do the young and the beautiful die;
Ere they drink of the rapture of summer's sweet hours;
Ere the brow hath a cloud, or the bosom a sigh?"

To the physician let me *earnestly* appeal? Look back upon the great field of your labors, and number the young hearts that you have seen wrapped in the shroud of death, notwithstanding all that your skill and solicitude could dictate for their relief—and ask yourself if there be *more* hope from the use of the *same agents*, and in the *same manner*, to the thousands that are now on the same great highway to the *grave*?

"Appointed by God, a priest of the holy flame of life—a curator and dispenser of his highest gifts, life and health, and of the hidden powers which he has laid up in nature for the welfare of man"—a solemn obligation rests upon the physician to discard *nothing* that promises to alleviate the sufferings of those committed to his care.

It cannot be *hoped* that any means will ever be discovered to restore the lost function to lungs that have become completely disorganized. But what *is* claimed for Inhalation is the power of arresting and *curing* diseases of the *throat*, *larynx*, and *lungs*, in stages that are far beyond the reach of any other human agency! As well might the safety and sufficiency of a boat to save a drowning man, if within his reach, be denied, because it will not pass in safety over fearful breakers, or glide steadily and securely down the fierce rapids, and awful *plunge*

of the mighty, impetuous, irresistible Niagara; because, when man is tottering on the very brink, ready to plunge down into the dread abyss, it is unable to triumph over warring elements and bear him in safety to the shore. As well might we reject the use of the steam-ship, that rides over the turbulence of the ocean, bringing together the remotest bounds of earth, because in the furious hurricane she is sometimes wrecked—as deny the merits of Inhalation, because it will not, in *every* instance, rescue the struggling and enfeebled victim from the closing jaws of death.

My object has been simply to *instruct*. Had I chosen to present you with a picture of the thrilling scenes which daily occur in the pathway of the physician:—man, in the pride of maturity, torn from all he loves, and borne to the silent tomb!—woman, in all her beauty, with the first blush of love upon her maiden cheek, hurried away, just when the future seems propitious of all that is necessary to make life desirable! The *infant*, with more than a giant's grasp, torn from the fond arms of its distracted mother! The *youth*, just entering the confines of manhood, with all the hopes so fondly cherished by doting parents, centred in him, and to whom they look for solace in their old age! The *husband*, from whose daily toil his little family are supplied with the necessaries of life! The *wife*, when but a few months have passed since she stood a bride at the altar, looking forward to a life extending far through the vista of the future, on which her beloved partner was to shed rays of contentment, prosperity, and joy! Had I detailed to you the death-bed scenes—the last sad partings which daily occur as these endearing ties of affection are snapped asunder by this insidious enemy of our race; or had I recalled the memory of the silent procession wending its way to the churchyard, and shown you afar the loved objects go down to the dismal grave, rather than pointed out a way of escape from the toils of the insatiate destroyer—I might have seen a tear glisten in the eye, or have heard a sob of anguish, as some fountain of bygone sorrow was opened by the recital. But my object has been to point out the dangers that surround the living, not to open the sepul-

chres of the dead; to rescue your mind from the bondage of error by appealing to your reason, not to blind your judgment by exciting your passions. I have sought to inspire the breast of the invalid with hope, by portraying the merits and the success of inhalation, and my task is almost done.

Of the *invalid*, who has spent the winter in a more genial clime, and who is now returning, like the dove of the Deluge, to that one bright spot amid its troubled waters of life—"home, sweet home,"—let me ask, whether such a residence has imparted strength and vigor to enfeebled limbs? If he return with the promise of enjoying life and health in the future? or whether he is *still* an invalid, journeying onwards without one bright star of rational hope shining through the dark horizon that overshadows his way? For if so, I would entreat him to test the efficacy of those means of recovery; and he may yet bear to those he loves the olive-branch of promise. I would solemnly warn him, that if his disease passes into the last stage, no means may be sufficient to save; and it requires a mind of strong moral courage to look upon futurity unrolling in *clouds of gloom and darkness!*



The author of this Treatise, in association with Dr. JAMES HUNTER, has taken up his residence at New York, for the exclusive treatment of Pulmonary Diseases, to which special branch of his profession he has for many years devoted his entire attention.

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